1

SEQUENCE LISTING

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<120> METHOD FOR IN VITRO DIAGNOSIS OF ENDOMETRIOSIS

<130> SCH-1789

<140> 09/961,403
<141> 2001-09-25

<160> 15

<170> PatentIn Ver. 2.1

<210> 1
<211> 2386
<212> PRT
<213> Homo sapiens

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Met Leu Arg Gly Pro Gly Pro Gly Leu Leu Leu Leu Ala Val Gln Cys
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Leu Gly Thr Ala Val Pro Ser Thr Gly Ala Ser Lys Ser Lys Arg Gln
            20   25   30

Ala Gln Gln Met Val Gln Pro Gln Ser Pro Val Ala Val Ser Gln Ser
        35   40   45

Lys Pro Gly Cys Tyr Asp Asn Gly Lys His Tyr Gln Ile Asn Gln Gln
    50   55   60

Trp Glu Arg Thr Tyr Leu Gly Asn Ala Leu Val Cys Thr Cys Tyr Gly
65   70   75   80

Gly Ser Arg Gly Phe Asn Cys Glu Ser Lys Pro Glu Ala Glu Glu Thr
                85   90   95

Cys Phe Asp Lys Tyr Thr Gly Asn Thr Tyr Arg Val Gly Asp Thr Tyr
            100   105   110

Glu Arg Pro Lys Asp Ser Met Ile Trp Asp Cys Thr Cys Ile Gly Ala
        115   120   125

Gly Arg Gly Arg Ile Ser Cys Thr Ile Ala Asn Arg Cys His Glu Gly
    130   135   140

Gly Gln Ser Tyr Lys Ile Gly Asp Thr Trp Arg Arg Pro His Glu Thr
145   150   155   160

```
Gly Gly Tyr Met Leu Glu Cys Val Cys Leu Gly Asn Gly Lys Gly Glu
            165             170             175

Trp Thr Cys Lys Pro Ile Ala Glu Lys Cys Phe Asp His Ala Ala Gly
            180             185             190

Thr Ser Tyr Val Val Gly Glu Thr Trp Glu Lys Pro Tyr Gln Gly Trp
            195             200             205

Met Met Val Asp Cys Thr Cys Leu Gly Glu Gly Ser Gly Arg Ile Thr
    210             215             220

Cys Thr Ser Arg Asn Arg Cys Asn Asp Gln Asp Thr Arg Thr Ser Tyr
225             230             235             240

Arg Ile Gly Asp Thr Trp Ser Lys Lys Asp Asn Arg Gly Asn Leu Leu
            245             250             255

Gln Cys Ile Cys Thr Gly Asn Gly Arg Gly Glu Trp Lys Cys Glu Arg
            260             265             270

His Thr Ser Val Gln Thr Thr Ser Ser Gly Ser Gly Pro Phe Thr Asp
            275             280             285

Val Arg Ala Ala Val Tyr Gln Pro Gln Pro His Pro Gln Pro Pro Pro
    290             295             300

Tyr Gly His Cys Val Thr Asp Ser Gly Val Val Tyr Ser Val Gly Met
305             310             315             320

Gln Trp Leu Lys Thr Gln Gly Asn Lys Gln Met Leu Cys Thr Cys Leu
            325             330             335

Gly Asn Gly Val Ser Cys Gln Glu Thr Ala Val Thr Gln Thr Tyr Gly
            340             345             350

Gly Asn Ser Asn Gly Glu Pro Cys Val Leu Pro Phe Thr Tyr Asn Gly
            355             360             365

Arg Thr Phe Tyr Ser Cys Thr Thr Glu Gly Arg Gln Asp Gly His Leu
    370             375             380

Trp Cys Ser Thr Thr Ser Asn Tyr Glu Gln Asp Gln Lys Tyr Ser Phe
385             390             395             400

Cys Thr Asp His Thr Val Leu Val Gln Thr Gln Gly Gly Asn Ser Asn
                405             410             415

Gly Ala Leu Cys His Phe Pro Phe Leu Tyr Asn Asn His Asn Tyr Thr
            420             425             430

Asp Cys Thr Ser Glu Gly Arg Arg Asp Asn Met Lys Trp Cys Gly Thr
            435             440             445

Thr Gln Asn Tyr Asp Ala Asp Gln Lys Phe Gly Phe Cys Pro Met Ala
    450             455             460
```

Ala His Glu Glu Ile Cys Thr Thr Asn Glu Gly Val Met Tyr Arg Ile
465   470   475   480

Gly Asp Gln Trp Asp Lys Gln His Asp Met Gly His Met Met Arg Cys
                485   490   495

Thr Cys Val Gly Asn Gly Arg Gly Glu Trp Thr Cys Ile Ala Tyr Ser
          500   505   510

Gln Leu Arg Asp Gln Cys Ile Val Asp Asp Ile Thr Tyr Asn Val Asn
          515   520   525

Asp Thr Phe His Lys Arg His Glu Glu Gly His Met Leu Asn Cys Thr
          530   535   540

Cys Phe Gly Gln Gly Arg Gly Arg Trp Lys Cys Asp Pro Val Asp Gln
545   550   555   560

Cys Gln Asp Ser Glu Thr Gly Thr Phe Tyr Gln Ile Gly Asp Ser Trp
          565   570   575

Glu Lys Tyr Val His Gly Val Arg Tyr Gln Cys Tyr Cys Tyr Gly Arg
          580   585   590

Gly Ile Gly Glu Trp His Cys Gln Pro Leu Gln Thr Tyr Pro Ser Ser
          595   600   605

Ser Gly Pro Val Glu Val Phe Ile Thr Glu Thr Pro Ser Gln Pro Asn
          610   615   620

Ser His Pro Ile Gln Trp Asn Ala Pro Gln Pro Ser His Ile Ser Lys
625   630   635   640

Tyr Ile Leu Arg Trp Arg Pro Lys Asn Ser Val Gly Arg Trp Lys Glu
                645   650   655

Ala Thr Ile Pro Gly His Leu Asn Ser Tyr Thr Ile Lys Gly Leu Lys
                660   665   670

Pro Gly Val Val Tyr Glu Gly Gln Leu Ile Ser Ile Gln Gln Tyr Gly
          675   680   685

His Gln Glu Val Thr Arg Phe Asp Phe Thr Thr Thr Ser Thr Ser Thr
    690   695   700

Pro Val Thr Ser Asn Thr Val Thr Gly Glu Thr Thr Pro Phe Ser Pro
705   710   715   720

Leu Val Ala Thr Ser Glu Ser Val Thr Glu Ile Thr Ala Ser Ser Phe
                725   730   735

Val Val Ser Trp Val Ser Ala Ser Asp Thr Val Ser Gly Phe Arg Val
                740   745   750

Glu Tyr Glu Leu Ser Glu Glu Gly Asp Glu Pro Gln Tyr Leu Asp Leu
          755   760   765

```
Pro Ser Thr Ala Thr Ser Val Asn Ile Pro Asp Leu Leu Pro Gly Arg
    770             775         780
```

```
Lys Tyr Ile Val Asn Val Tyr Gln Ile Ser Glu Asp Gly Glu Gln Ser
785         790         795                 800
```

```
Leu Ile Leu Ser Thr Ser Gln Thr Thr Ala Pro Asp Ala Pro Pro Asp
            805             810             815
```

```
Pro Thr Val Asp Gln Val Asp Asp Thr Ser Ile Val Val Arg Trp Ser
            820             825             830
```

```
Arg Pro Gln Ala Pro Ile Thr Gly Tyr Arg Ile Val Tyr Ser Pro Ser
        835         840             845
```

```
Val Glu Gly Ser Ser Thr Glu Leu Asn Leu Pro Glu Thr Ala Asn Ser
    850             855             860
```

```
Val Thr Leu Ser Asp Leu Gln Pro Gly Val Gln Tyr Asn Ile Thr Ile
865             870             875             880
```

```
Tyr Ala Val Glu Glu Asn Gln Glu Ser Thr Pro Val Val Ile Gln Gln
            885             890             895
```

```
Glu Thr Thr Gly Thr Pro Arg Ser Asp Thr Val Pro Ser Pro Arg Asp
            900             905             910
```

```
Leu Gln Phe Val Glu Val Thr Asp Val Lys Val Thr Ile Met Trp Thr
        915             920             925
```

```
Pro Pro Glu Ser Ala Val Thr Gly Tyr Arg Val Asp Val Ile Pro Val
    930             935             940
```

```
Asn Leu Pro Gly Glu His Gly Gln Arg Leu Pro Ile Ser Arg Asn Thr
945             950             955             960
```

```
Phe Ala Glu Val Thr Gly Leu Ser Pro Gly Val Thr Tyr Tyr Phe Lys
            965             970             975
```

```
Val Phe Ala Val Ser His Gly Arg Glu Ser Lys Pro Leu Thr Ala Gln
            980             985             990
```

```
Gln Thr Thr Lys Leu Asp Ala Pro Thr Asn Leu Gln Phe Val Asn Glu
        995             1000            1005
```

```
Thr Asp Ser Thr Val Leu Val Arg Trp Thr Pro Pro Arg Ala Gln Ile
    1010            1015            1020
```

```
Thr Gly Tyr Arg Leu Thr Val Gly Leu Thr Arg Arg Gly Gln Pro Arg
1025            1030            1035            1040
```

```
Gln Tyr Asn Val Gly Pro Ser Val Ser Lys Tyr Pro Leu Arg Asn Leu
            1045            1050            1055
```

```
Gln Pro Ala Ser Glu Tyr Thr Val Ser Leu Val Ala Ile Lys Gly Asn
        1060            1065            1070
```

Gln Glu Ser Pro Lys Ala Thr Gly Val Phe Thr Thr Leu Gln Pro Gly
     1075   1080   1085

Ser Ser Ile Pro Pro Tyr Asn Thr Glu Val Thr Glu Thr Thr Ile Val
     1090   1095   1100

Ile Thr Trp Thr Pro Ala Pro Arg Ile Gly Phe Lys Leu Gly Val Arg
1105   1110   1115   1120

Pro Ser Gln Gly Gly Glu Ala Pro Arg Glu Val Thr Ser Asp Ser Gly
        1125   1130   1135

Ser Ile Val Val Ser Gly Leu Thr Pro Gly Val Glu Tyr Val Tyr Thr
     1140   1145   1150

Ile Gln Val Leu Arg Asp Gly Gln Glu Arg Asp Ala Pro Ile Val Asn
      1155   1160   1165

Lys Val Val Thr Pro Leu Ser Pro Pro Thr Asn Leu His Leu Glu Ala
     1170   1175   1180

Asn Pro Asp Thr Gly Val Leu Thr Val Ser Trp Glu Arg Ser Thr Thr
1185   1190   1195   1200

Pro Asp Ile Thr Gly Tyr Arg Ile Thr Thr Thr Pro Thr Asn Gly Gln
        1205   1210   1215

Gln Gly Asn Ser Leu Glu Glu Val Val His Ala Asp Gln Ser Ser Cys
        1220   1225   1230

Thr Phe Asp Asn Leu Ser Pro Gly Leu Glu Tyr Asn Val Ser Val Tyr
     1235   1240   1245

Thr Val Lys Asp Asp Lys Glu Ser Val Pro Ile Ser Asp Thr Ile Ile
     1250   1255   1260

Pro Ala Val Pro Pro Pro Thr Asp Leu Arg Phe Thr Asn Ile Gly Pro
1265   1270   1275   1280

Asp Thr Met Arg Val Thr Trp Ala Pro Pro Pro Ser Ile Asp Leu Thr
        1285   1290   1295

Asn Phe Leu Val Arg Tyr Ser Pro Val Lys Asn Glu Glu Asp Val Ala
        1300   1305   1310

Glu Leu Ser Ile Ser Pro Ser Asp Asn Ala Val Val Leu Thr Asn Leu
      1315   1320   1325

Leu Pro Gly Thr Glu Tyr Val Val Ser Val Ser Ser Val Tyr Glu Gln
     1330   1335   1340

His Glu Ser Thr Pro Leu Arg Gly Arg Gln Lys Thr Gly Leu Asp Ser
1345   1350   1355   1360

Pro Thr Gly Ile Asp Phe Ser Asp Ile Thr Ala Asn Ser Phe Thr Val
        1365   1370   1375

His Trp Ile Ala Pro Arg Ala Thr Ile Thr Gly Tyr Arg Ile Arg His
    1380   1385   1390

His Pro Glu His Phe Ser Gly Arg Pro Arg Glu Asp Arg Val Pro His
   1395   1400   1405

Ser Arg Asn Ser Ile Thr Leu Thr Asn Leu Thr Pro Gly Thr Glu Tyr
 1410   1415   1420

Val Val Ser Ile Val Ala Leu Asn Gly Arg Glu Glu Ser Pro Leu Leu
1425   1430   1435   1440

Ile Gly Gln Gln Ser Thr Val Ser Asp Val Pro Arg Asp Leu Glu Val
    1445   1450   1455

Val Ala Ala Thr Pro Thr Ser Leu Leu Ile Ser Trp Asp Ala Pro Ala
    1460   1465   1470

Val Thr Val Arg Tyr Tyr Arg Ile Thr Tyr Gly Glu Thr Gly Gly Asn
    1475   1480   1485

Ser Pro Val Gln Glu Phe Thr Val Pro Gly Ser Lys Ser Thr Ala Thr
  1490   1495   1500

Ile Ser Gly Leu Lys Pro Gly Val Asp Tyr Thr Ile Thr Val Tyr Ala
1505   1510   1515   1520

Val Thr Gly Arg Gly Asp Ser Pro Ala Ser Ser Lys Pro Ile Ser Ile
    1525   1530   1535

Asn Tyr Arg Thr Glu Ile Asp Lys Pro Ser Gln Met Gln Val Thr Asp
    1540   1545   1550

Val Gln Asp Asn Ser Ile Ser Val Lys Trp Leu Pro Ser Ser Ser Pro
   1555   1560   1565

Val Thr Gly Tyr Arg Val Thr Thr Thr Pro Lys Asn Gly Pro Gly Pro
  1570   1575   1580

Thr Lys Thr Lys Thr Ala Gly Pro Asp Gln Thr Glu Met Thr Ile Glu
1585   1590   1595   1600

Gly Leu Gln Pro Thr Val Glu Tyr Val Val Ser Val Tyr Ala Gln Asn
    1605   1610   1615

Pro Ser Gly Glu Ser Gln Pro Leu Val Gln Thr Ala Val Thr Asn Ile
    1620   1625   1630

Asp Arg Pro Lys Gly Leu Ala Phe Thr Asp Val Asp Val Asp Ser Ile
   1635   1640   1645

Lys Ile Ala Trp Glu Ser Pro Gln Gly Gln Val Ser Arg Tyr Arg Val
  1650   1655   1660

Thr Tyr Ser Ser Pro Glu Asp Gly Ile His Glu Leu Phe Pro Ala Pro
1665   1670   1675   1680

Asp Gly Glu Glu Asp Thr Ala Glu Leu Gln Gly Leu Arg Pro Gly Ser
          1685   1690   1695

Glu Tyr Thr Val Ser Val Val Ala Leu His Asp Asp Met Glu Ser Gln
        1700   1705   1710

Pro Leu Ile Gly Thr Gln Ser Thr Ala Ile Pro Ala Pro Thr Asp Leu
      1715   1720   1725

Lys Phe Thr Gln Val Thr Pro Thr Ser Leu Ser Ala Gln Trp Thr Pro
    1730   1735   1740

Pro Asn Val Gln Leu Thr Gly Tyr Arg Val Arg Val Thr Pro Lys Glu
1745   1750   1755   1760

Lys Thr Gly Pro Met Lys Glu Ile Asn Leu Ala Pro Asp Ser Ser Ser
          1765   1770   1775

Val Val Val Ser Gly Leu Met Val Ala Thr Lys Tyr Glu Val Ser Val
        1780   1785   1790

Tyr Ala Leu Lys Asp Thr Leu Thr Ser Arg Pro Ala Gln Gly Val Val
        1795   1800   1805

Thr Thr Leu Glu Asn Val Ser Pro Pro Arg Arg Ala Arg Val Thr Asp
    1810   1815   1820

Ala Thr Glu Thr Thr Ile Thr Ile Ser Trp Arg Thr Lys Thr Glu Thr
1825   1830   1835   1840

Ile Thr Gly Phe Gln Val Asp Ala Val Pro Ala Asn Gly Gln Thr Pro
          1845   1850   1855

Ile Gln Arg Thr Ile Lys Pro Asp Val Arg Ser Tyr Thr Ile Thr Gly
        1860   1865   1870

Leu Gln Pro Gly Thr Asp Tyr Lys Ile Tyr Leu Tyr Thr Leu Asn Asp
      1875   1880   1885

Asn Ala Arg Ser Ser Pro Val Val Ile Asp Ala Ser Thr Ala Ile Asp
    1890   1895   1900

Ala Pro Ser Asn Leu Arg Phe Leu Ala Thr Thr Pro Asn Ser Leu Leu
1905   1910   1915   1920

Val Ser Trp Gln Pro Pro Arg Ala Arg Ile Thr Gly Tyr Ile Ile Lys
          1925   1930   1935

Tyr Glu Lys Pro Gly Ser Pro Pro Arg Glu Val Val Pro Arg Pro Arg
        1940   1945   1950

Pro Gly Val Thr Glu Ala Thr Ile Thr Gly Leu Glu Pro Gly Thr Glu
      1955   1960   1965

Tyr Thr Ile Tyr Val Ile Ala Leu Lys Asn Asn Gln Lys Ser Glu Pro
    1970   1975   1980

```
Leu Ile Gly Arg Lys Lys Thr Asp Glu Leu Pro Gln Leu Val Thr Leu
1985           1990           1995           2000

Pro His Pro Asn Leu His Gly Pro Glu Ile Leu Asp Val Pro Ser Thr
          2005           2010           2015

Val Gln Lys Thr Pro Phe Val Thr His Pro Gly Tyr Asp Thr Gly Asn
          2020           2025           2030

Gly Ile Gln Leu Pro Gly Thr Ser Gly Gln Gln Pro Ser Val Gly Gln
          2035           2040           2045

Gln Met Ile Phe Glu Glu His Gly Phe Arg Arg Thr Thr Pro Pro Thr
     2050           2055           2060

Thr Ala Thr Pro Ile Arg His Arg Pro Arg Pro Tyr Pro Pro Asn Val
2065           2070           2075           2080

Gly Glu Glu Ile Gln Ile Gly His Ile Pro Arg Glu Asp Val Asp Tyr
          2085           2090           2095

His Leu Tyr Pro His Gly Pro Gly Leu Asn Pro Asn Ala Ser Thr Gly
          2100           2105           2110

Gln Glu Ala Leu Ser Gln Thr Thr Ile Ser Trp Ala Pro Phe Gln Asp
     2115           2120           2125

Thr Ser Glu Tyr Ile Ile Ser Cys His Pro Val Gly Thr Asp Glu Glu
     2130           2135           2140

Pro Leu Gln Phe Arg Val Pro Gly Thr Ser Thr Ser Ala Thr Leu Thr
2145           2150           2155           2160

Gly Leu Thr Arg Gly Ala Thr Tyr Asn Ile Ile Val Glu Ala Leu Lys
          2165           2170           2175

Asp Gln Gln Arg His Lys Val Arg Glu Glu Val Val Thr Val Gly Asn
          2180           2185           2190

Ser Val Asn Glu Gly Leu Asn Gln Pro Thr Asp Asp Ser Cys Phe Asp
          2195           2200           2205

Pro Tyr Thr Val Ser His Tyr Ala Val Gly Asp Glu Trp Glu Arg Met
     2210           2215           2220

Ser Glu Ser Gly Phe Lys Leu Leu Cys Gln Cys Leu Gly Phe Gly Ser
2225           2230           2235           2240

Gly His Phe Arg Cys Asp Ser Ser Arg Trp Cys His Asp Asn Gly Val
          2245           2250           2255

Asn Tyr Lys Ile Gly Glu Lys Trp Asp Arg Gln Gly Glu Asn Gly Gln
          2260           2265           2270

Met Met Ser Cys Thr Cys Leu Gly Asn Gly Lys Gly Glu Phe Lys Cys
     2275           2280           2285
```

Asp Pro His Glu Ala Thr Cys Tyr Asp Asp Gly Lys Thr Tyr His Val
     2290   2295   2300

Gly Glu Gln Trp Gln Lys Glu Tyr Leu Gly Ala Ile Cys Ser Cys Thr
2305   2310   2315   2320

Cys Phe Gly Gly Gln Arg Gly Trp Arg Cys Asp Asn Cys Arg Arg Pro
              2325   2330   2335

Gly Gly Glu Pro Ser Pro Glu Gly Thr Thr Gly Gln Ser Tyr Asn Gln
           2340   2345   2350

Tyr Ser Gln Arg Tyr His Gln Arg Thr Asn Thr Asn Val Asn Cys Pro
           2355   2360   2365

Ile Glu Cys Phe Met Pro Leu Asp Val Gln Ala Asp Arg Glu Asp Ser
     2370   2375   2380

Arg Glu
2385

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<212> PRT
<213> Homo sapiens

<400> 2
Met Leu Pro Arg Val Gly Cys Pro Ala Leu Pro Leu Pro Pro Pro Pro
  1   5   10   15

Leu Leu Pro Leu Leu Pro Leu Leu Leu Leu Leu Leu Gly Ala Ser Gly
              20   25   30

Gly Gly Gly Gly Ala Arg Ala Glu Val Leu Phe Arg Cys Pro Pro Cys
           35   40   45

Thr Pro Glu Arg Leu Ala Ala Cys Gly Pro Pro Pro Val Ala Pro Pro
     50   55   60

Ala Ala Val Ala Ala Val Ala Gly Gly Ala Arg Met Pro Cys Ala Glu
 65   70   75   80

Leu Val Arg Glu Pro Gly Cys Gly Cys Cys Ser Val Cys Ala Arg Leu
              85   90   95

Glu Gly Glu Ala Cys Gly Val Tyr Thr Pro Arg Cys Gly Gln Gly Leu
           100   105   110

Arg Cys Tyr Pro His Pro Gly Ser Glu Leu Pro Leu Gln Ala Leu Val
     115   120   125

Met Gly Glu Gly Thr Cys Glu Lys Arg Arg Asp Ala Glu Tyr Gly Ala
     130   135   140

Ser Pro Glu Gln Val Ala Asp Asn Gly Asp Asp His Ser Glu Gly Gly
145   150   155   160

Leu Val Glu Asn His Val Asp Ser Thr Met Asn Met Leu Gly Gly Gly
            165   170   175

Gly Ser Ala Gly Arg Lys Pro Leu Lys Ser Gly Met Lys Glu Leu Ala
            180   185   190

Val Phe Arg Glu Lys Val Thr Glu Gln His Arg Gln Met Gly Lys Gly
            195   200   205

Gly Lys His His Leu Gly Leu Glu Glu Pro Lys Lys Leu Arg Pro Pro
    210   215   220

Pro Ala Arg Thr Pro Cys Gln Gln Glu Leu Asp Gln Val Leu Glu Arg
225   230   235   240

Ile Ser Thr Met Arg Leu Pro Asp Glu Arg Gly Pro Leu Glu His Leu
            245   250   255

Tyr Ser Leu His Ile Pro Asn Cys Asp Lys His Gly Leu Tyr Asn Leu
            260   265   270

Lys Gln Cys Lys Met Ser Leu Asn Gly Gln Arg Gly Glu Cys Trp Cys
            275   280   285

Val Asn Pro Asn Thr Gly Lys Leu Ile Gln Gly Ala Pro Thr Ile Arg
            290   295   300

Gly Asp Pro Glu Cys His Leu Phe Tyr Asn Glu Gln Gln Glu Ala Arg
305   310   315   320

Gly Val His Thr Gln Arg Met Gln
            325

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<212> PRT
<213> Homo sapiens

<400> 3
Met Gly Ala Ala Arg Gly Ser Pro Ala Arg Pro Arg Arg Leu Pro Leu
    1   5   10   15

Leu Ser Val Leu Leu Leu Pro Leu Leu Gly Gly Thr Gln Thr Ala Ile
            20   25   30

Val Phe Ile Lys Gln Pro Ser Ser Gln Asp Ala Leu Gln Gly Arg Arg
        35   40   45

Ala Leu Leu Arg Cys Glu Val Glu Ala Pro Gly Pro Val His Val Tyr
    50   55   60

Trp Leu Leu Asp Gly Ala Pro Val Gln Asp Thr Glu Arg Arg Phe Ala
65   70   75   80

Gln Gly Ser Ser Leu Ser Phe Ala Ala Val Asp Pro Leu Gln Asp Ser
            85   90   95

Gly Thr Phe Gln Cys Val Ala Arg Asp Asp Val Thr Gly Glu Glu Ala
            100   105   110

Arg Ser Ala Asn Ala Ser Phe Asn Ile Lys Trp Ile Glu Ala Gly Pro
            115   120   125

Val Val Leu Lys His Pro Ala Ser Glu Ala Glu Ile Gln Pro Gln Thr
            130   135   140

Gln Val Lys Leu Arg Cys His Ile Asp Gly His Pro Arg Pro Thr Tyr
145   150   155   160

Gln Trp Phe Arg Asp Gly Thr Pro Leu Ser Asp Gly Gln Ser Asn His
                165   170   175

Thr Val Ser Ser Lys Glu Arg Asn Leu Thr Leu Arg Pro Ala Gly Pro
                180   185   190

Glu His Ser Gly Leu Tyr Ser Cys Cys Ala His Ser Ala Phe Ser Gln
            195   200   205

Ala Cys Ser Ser Gln Asn Phe Thr Leu Ser Ile Ala Asp Glu Ser Phe
            210   215   220

Ala Arg Val Val Leu Ala Pro Gln Asp Val Val Val Ala Arg Tyr Glu
225   230   235   240

Glu Ala Met Phe His Cys Gln Phe Ser Ala Gln Pro Pro Pro Ser Leu
                245   250   255

Gln Trp Leu Phe Glu Asp Glu Thr Pro Ile Thr Asn Arg Ser Arg Pro
                260   265   270

Pro His Leu Arg Arg Ala Thr Val Phe Ala Asn Gly Ser Leu Leu Leu
            275   280   285

Thr Gln Val Arg Pro Arg Asn Ala Gly Ile Tyr Arg Cys Ile Gly Gln
    290   295   300

Gly Gln Arg Gly Pro Pro Ile Ile Leu Glu Ala Thr Leu His Leu Ala
305   310   315   320

Glu Ile Glu Asp Met Pro Leu Phe Glu Pro Arg Val Phe Thr Ala Gly
                325   330   335

Ser Glu Glu Arg Val Thr Cys Leu Pro Pro Lys Gly Leu Pro Glu Pro
            340   345   350

Ser Val Trp Trp Glu His Ala Gly Val Arg Leu Pro Thr His Gly Arg
        355   360   365

Val Tyr Gln Lys Gly His Glu Leu Val Leu Ala Asn Ile Ala Glu Ser
    370   375   380

Asp Ala Gly Val Tyr Thr Cys His Ala Ala Asn Leu Ala Gly Gln Arg
385   390   395   400

Arg Gln Asp Val Asn Ile Thr Val Ala Thr Val Pro Ser Trp Leu Lys
            405   410   415

Lys Pro Gln Asp Ser Gln Leu Glu Glu Gly Lys Pro Gly Tyr Leu Asp
            420   425   430

Cys Leu Thr Gln Ala Thr Pro Lys Pro Thr Val Val Trp Tyr Arg Asn
            435   440   445

Gln Met Leu Ile Ser Glu Asp Ser Arg Phe Glu Val Phe Lys Asn Gly
        450   455   460

Thr Leu Arg Ile Asn Ser Val Glu Val Tyr Asp Gly Thr Trp Tyr Arg
465   470   475   480

Cys Met Ser Ser Thr Pro Ala Gly Ser Ile Glu Ala Gln Ala Val Leu
                485   490   495

Gln Val Leu Glu Lys Leu Lys Phe Thr Pro Pro Pro Gln Pro Gln Gln
            500   505   510

Cys Met Gly Phe Asp Lys Glu Ala Thr Val Pro Cys Ser Ala Thr Gly
            515   520   525

Arg Glu Lys Pro Thr Ile Lys Trp Glu Arg Ala Asp Gly Ser Ser Leu
        530   535   540

Pro Glu Trp Val Thr Asp Asn Ala Gly Thr Leu His Phe Ala Arg Val
545   550   555   560

Thr Arg Asp Asp Ala Gly Asn Tyr Thr Cys Ile Ala Ser Asn Gly Pro
                565   570   575

Gln Gly Gln Ile Arg Ala His Val Gln Leu Thr Val Ala Val Phe Ile
            580   585   590

Thr Phe Lys Val Glu Pro Glu Arg Thr Thr Val Tyr Gln Gly His Thr
        595   600   605

Ala Leu Leu Gln Cys Glu Ala Gln Gly Asp Pro Lys Pro Leu Ile Gln
    610   615   620

Trp Lys Gly Lys Asp Arg Ile Leu Asp Pro Thr Lys Leu Gly Pro Arg
625   630   635   640

Met His Ile Phe Gln Asn Gly Ser Leu Val Ile His Asp Val Ala Pro
            645   650   655

Glu Asp Ser Gly Arg Tyr Thr Cys Ile Ala Gly Asn Ser Cys Asn Ile
            660   665   670

Lys His Thr Glu Ala Pro Leu Tyr Val Val Asp Lys Pro Val Pro Glu
        675   680   685

Glu Ser Glu Gly Pro Gly Ser Pro Pro Pro Tyr Lys Met Ile Gln Thr
    690   695   700

```
Ile Gly Leu Ser Val Gly Ala Ala Val Ala Tyr Ile Ile Ala Val Leu
705             710             715                 720

Gly Leu Met Phe Tyr Cys Lys Lys Arg Cys Lys Ala Lys Arg Leu Gln
                725             730                 735

Lys Gln Pro Glu Gly Glu Glu Pro Glu Met Glu Cys Leu Asn Gly Gly
            740             745                 750

Pro Leu Gln Asn Gly Gln Pro Ser Ala Glu Ile Gln Glu Glu Val Ala
            755             760                 765

Leu Thr Ser Leu Gly Ser Gly Pro Ala Ala Thr Asn Lys Arg His Ser
    770             775                 780

Thr Ser Asp Lys Met His Phe Pro Arg Ser Ser Leu Gln Pro Ile Thr
785             790                 795                 800

Thr Leu Gly Lys Ser Glu Phe Gly Glu Val Phe Leu Ala Lys Ala Gln
                805             810                 815

Gly Leu Glu Glu Gly Val Ala Glu Thr Leu Val Leu Val Lys Ser Leu
            820             825                 830

Gln Ser Lys Asp Glu Gln Gln Gln Leu Asp Phe Arg Arg Glu Leu Glu
            835             840                 845

Met Phe Gly Lys Leu Asn His Ala Asn Val Val Arg Leu Leu Gly Leu
    850             855                 860

Cys Arg Glu Ala Glu Pro His Tyr Met Val Leu Glu Tyr Val Asp Leu
865             870                 875                 880

Glu Asp Leu Lys Gln Phe Leu Arg Ile Ser Lys Ser Lys Asp Glu Lys
            885             890                 895

Leu Lys Ser Gln Pro Leu Ser Thr Lys Gln Lys Val Ala Leu Cys Thr
            900             905                 910

Gln Val Ala Leu Gly Met Glu His Leu Ser Asn Asn Arg Phe Val His
    915             920                 925

Lys Asp Leu Ala Ala Arg Asn Cys Leu Val Ser Ala Gln Arg Gln Val
    930             935                 940

Lys Val Ser Ala Leu Gly Leu Ser Lys Asp Val Tyr Asn Ser Glu Tyr
945             950                 955                 960

Tyr His Phe Arg Gln Ala Trp Val Ala Leu Arg Trp Met Ser Pro Glu
            965             970                 975

Ala Ile Leu Glu Gly Asp Phe Ser Thr Lys Ser Asp Val Trp Ala Ser
            980             985                 990

Gly Val Leu Met Trp Glu Val Phe Thr His Gly Glu Met Pro His Gly
            995             1000                1005
```

Gly Gln Ala Asp Asp Glu Val Leu Ala Asp Leu Gln Ala Gly Lys Ala
    1010   1015   1020

Arg Leu Pro Gln Pro Glu Gly Cys Pro Ser Lys Leu Tyr Arg Leu Met
1025   1030   1035   1040

Gln Arg Cys Trp Ala Leu Ser Pro Lys Asp Arg Pro Ser Phe Ser Glu
          1045   1050   1055

Ile Ala Ser Ala Leu Gly Asp Ser Thr Val Asp Ser Lys Pro
          1060   1065   1070

<210> 4
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<212> PRT
<213> Homo sapiens

<400> 4
Met Gly Thr Ser His Pro Ala Phe Leu Val Leu Gly Cys Leu Leu Thr
  1   5   10   15

Gly Leu Ser Leu Ile Leu Cys Gln Leu Ser Leu Pro Ser Ile Leu Pro
          20   25   30

Asn Glu Asn Glu Lys Val Val Gln Leu Asn Ser Ser Phe Ser Leu Arg
          35   40   45

Cys Phe Gly Glu Ser Glu Val Ser Trp Gln Tyr Pro Met Ser Glu Glu
      50   55   60

Glu Ser Ser Asp Val Glu Ile Arg Asn Glu Glu Asn Asn Ser Gly Leu
65   70   75   80

Phe Val Thr Val Leu Glu Val Ser Ser Ala Ser Ala Ala His Thr Gly
             85   90   95

Leu Tyr Thr Cys Tyr Tyr Asn His Thr Gln Thr Glu Glu Asn Glu Leu
          100   105   110

Glu Gly Arg His Ile Tyr Ile Tyr Val Pro Asp Pro Asp Val Ala Phe
          115   120   125

Val Pro Leu Gly Met Thr Asp Tyr Leu Val Ile Val Glu Asp Asp Asp
      130   135   140

Ser Ala Ile Ile Pro Cys Arg Thr Thr Asp Pro Glu Thr Pro Val Thr
145   150   155   160

Leu His Asn Ser Glu Gly Val Val Pro Ala Ser Tyr Asp Ser Arg Gln
          165   170   175

Gly Phe Asn Gly Thr Phe Thr Val Gly Pro Tyr Ile Cys Glu Ala Thr
          180   185   190

Val Lys Gly Lys Lys Phe Gln Thr Ile Pro Phe Asn Val Tyr Ala Leu
          195   200   205

Lys Ala Thr Ser Glu Leu Asp Leu Glu Met Glu Ala Leu Lys Thr Val
210   215   220

Tyr Lys Ser Gly Glu Thr Ile Val Val Thr Cys Ala Val Phe Asn Asn
225   230   235   240

Glu Val Val Asp Leu Gln Trp Thr Tyr Pro Gly Glu Val Lys Gly Lys
245   250   255

Gly Ile Thr Met Leu Glu Glu Ile Lys Val Pro Ser Ile Lys Leu Val
260   265   270

Tyr Thr Leu Thr Val Pro Glu Ala Thr Val Lys Asp Ser Gly Asp Tyr
275   280   285

Glu Cys Ala Ala Arg Gln Ala Thr Arg Glu Val Lys Glu Met Lys Lys
290   295   300

Val Thr Ile Ser Val His Glu Lys Gly Phe Ile Glu Ile Lys Pro Thr
305   310   315   320

Phe Ser Gln Leu Glu Ala Val Asn Leu His Glu Val Lys His Phe Val
325   330   335

Val Glu Val Arg Ala Tyr Pro Pro Pro Arg Ile Ser Trp Leu Lys Asn
340   345   350

Asn Leu Thr Leu Ile Glu Asn Leu Thr Glu Ile Thr Thr Asp Val Glu
355   360   365

Lys Ile Gln Glu Ile Arg Tyr Arg Ser Lys Leu Lys Leu Ile Arg Ala
370   375   380

Lys Glu Glu Asp Ser Gly His Tyr Thr Ile Val Ala Gln Asn Glu Asp
385   390   395   400

Ala Val Lys Ser Tyr Thr Phe Glu Leu Leu Thr Gln Val Pro Ser Ser
405   410   415

Ile Leu Asp Leu Val Asp Asp His His Gly Ser Thr Gly Gly Gln Thr
420   425   430

Val Arg Cys Thr Ala Glu Gly Thr Pro Leu Pro Asp Ile Glu Trp Met
435   440   445

Ile Cys Lys Asp Ile Lys Lys Cys Asn Asn Glu Thr Ser Trp Thr Ile
450   455   460

Leu Ala Asn Asn Val Ser Asn Ile Ile Thr Glu Ile His Ser Arg Asp
465   470   475   480

Arg Ser Thr Val Glu Gly Arg Val Thr Phe Ala Lys Val Glu Glu Thr
485   490   495

Ile Ala Val Arg Cys Leu Ala Lys Asn Leu Leu Gly Ala Glu Asn Arg
500   505   510

Glu Leu Lys Leu Val Ala Pro Thr Leu Arg Ser Glu Leu Thr Val Ala
     515   520   525

Ala Ala Val Leu Val Leu Leu Val Ile Val Ile Ile Ser Leu Ile Val
     530   535   540

Leu Val Val Ile Trp Lys Gln Lys Pro Arg Tyr Glu Ile Arg Trp Arg
545   550   555   560

Val Ile Glu Ser Ile Ser Pro Asp Gly His Glu Tyr Ile Tyr Val Asp
         565   570   575

Pro Met Gln Leu Pro Tyr Asp Ser Arg Trp Glu Phe Pro Arg Asp Gly
         580   585   590

Leu Val Leu Gly Arg Val Leu Gly Ser Gly Ala Phe Gly Lys Val Val
     595   600   605

Glu Gly Thr Ala Tyr Gly Leu Ser Arg Ser Gln Pro Val Met Lys Val
     610   615   620

Ala Val Lys Met Leu Lys Pro Thr Ala Arg Ser Ser Glu Lys Gln Ala
625   630   635   640

Leu Met Ser Glu Leu Lys Ile Met Thr His Leu Gly Pro His Leu Asn
         645   650   655

Ile Val Asn Leu Leu Gly Ala Cys Thr Lys Ser Gly Pro Ile Tyr Ile
         660   665   670

Ile Thr Glu Tyr Cys Phe Tyr Gly Asp Leu Val Asn Tyr Leu His Lys
         675   680   685

Asn Arg Asp Ser Phe Leu Ser His His Pro Glu Lys Pro Lys Lys Glu
     690   695   700

Leu Asp Ile Phe Gly Leu Asn Pro Ala Asp Glu Ser Thr Arg Ser Tyr
705   710   715   720

Val Ile Leu Ser Phe Glu Asn Asn Gly Asp Tyr Met Asp Met Lys Gln
         725   730   735

Ala Asp Thr Thr Gln Tyr Val Pro Met Leu Glu Arg Lys Glu Val Ser
         740   745   750

Lys Tyr Ser Asp Ile Gln Arg Ser Leu Tyr Asp Arg Pro Ala Ser Tyr
         755   760   765

Lys Lys Lys Ser Met Leu Asp Ser Glu Val Lys Asn Leu Leu Ser Asp
     770   775   780

Asp Asn Ser Glu Gly Leu Thr Leu Leu Asp Leu Leu Ser Phe Thr Tyr
785   790   795   800

Gln Val Ala Arg Gly Met Glu Phe Leu Ala Ser Lys Asn Cys Val His
         805   810   815

Arg Asp Leu Ala Ala Arg Asn Val Leu Leu Ala Gln Gly Lys Ile Val
          820   825   830

Lys Ile Cys Asp Phe Gly Leu Ala Arg Asp Ile Met His Asp Ser Asn
          835   840   845

Tyr Val Ser Lys Gly Ser Thr Phe Leu Pro Val Lys Trp Met Ala Pro
 850   855   860

Glu Ser Ile Phe Asp Asn Leu Tyr Thr Thr Leu Ser Asp Val Trp Ser
865   870   875   880

Tyr Gly Ile Leu Leu Trp Glu Ile Phe Ser Leu Gly Gly Thr Pro Tyr
          885   890   895

Pro Gly Met Met Val Asp Ser Thr Phe Tyr Asn Lys Ile Lys Ser Gly
          900   905   910

Tyr Arg Met Ala Lys Pro Asp His Ala Thr Ser Glu Val Tyr Glu Ile
          915   920   925

Met Val Lys Cys Trp Asn Ser Glu Pro Glu Lys Arg Pro Ser Phe Tyr
          930   935   940

His Leu Ser Glu Ile Val Glu Asn Leu Leu Pro Gly Gln Tyr Lys Lys
945   950   955   960

Ser Tyr Glu Lys Ile His Leu Asp Phe Leu Lys Ser Asp His Pro Ala
          965   970   975

Val Ala Arg Met Val Asp Ser Asp Asn Ala Tyr Ile Gly Val Thr Tyr
          980   985   990

Lys Asn Glu Glu Asp Lys Leu Lys Asp Trp Glu Gly Gly Leu Asp Glu
          995   1000   1005

Gln Arg Leu Ser Ala Asp Ser Gly Tyr Ile Ile Pro Leu Pro Asp Ile
    1010   1015   1020

Asp Pro Val Pro Glu Glu Glu Asp Leu Gly Lys Arg Asn Arg His Ser
1025   1030   1035   1040

Ser Gln Thr Ser Glu Glu Ser Ala Ile Glu Thr Gly Ser Ser Ser Ser
          1045   1050   1055

Thr Phe Ile Lys Arg Glu Asp Glu Thr Ile Glu Asp Ile Asp Met Met
          1060   1065   1070

Asp Asp Ile Gly Ile Asp Ser Ser Asp Leu Val Glu Asp Ser Phe Leu
          1075   1080   1085

<210> 5
<211> 684
<212> PRT
<213> Homo sapiens

<400> 5

```
Gly Glu Val Gly Ala Asp Gly Ile Pro Gly Phe Pro Gly Leu Pro Gly
 1               5               10              15

Arg Glu Gly Ile Ala Gly Pro Gln Gly Pro Lys Gly Asp Arg Gly Ser
            20              25              30

Arg Gly Glu Lys Gly Asp Pro Gly Lys Asp Gly Leu Gly Gln Pro Gly
        35              40              45

Leu Pro Gly Pro Arg Gly Pro Pro Gly Pro Val Val Tyr Val Ser Glu
    50              55              60

Gln Asp Gly Ser Val Leu Ser Val Pro Gly Pro Glu Gly Arg Arg Gly
65              70              75              80

Phe Ala Gly Phe Pro Gly Pro Ala Gly Pro Lys Gly Asn Leu Gly Ser
            85              90              95

Lys Gly Glu Leu Gly Ser Pro Gly Pro Lys Gly Glu Lys Gly Glu Pro
        100             105             110

Gly Ser Ile Phe Ser Pro Asp Gly Gly Ala Leu Gly Pro Ala Gln Lys
        115             120             125

Gly Ala Lys Gly Glu Pro Gly Phe Arg Gly Pro Pro Gly Leu Tyr Gly
    130             135             140

Arg Pro Gly Tyr Lys Gly Glu Ile Gly Phe Pro Gly Arg Pro Gly Arg
145             150             155             160

Pro Gly Met Asn Gly Leu Lys Gly Glu Lys Gly Glu Pro Gly Asp Ala
            165             170             175

Ser Leu Gly Phe Gly Met Arg Gly Met Pro Gly Pro Pro Gly Pro Pro
            180             185             190

Gly Pro Pro Gly Pro Pro Gly Thr Pro Val Tyr Asp Ser Asn Val Phe
        195             200             205

Ala Glu Ser Ser Arg Pro Gly Pro Pro Gly Leu Pro Gly Asn Gln Gly
    210             215             220

Pro Pro Gly Pro Lys Gly Pro Lys Gly Glu Val Gly Pro Pro Gly Pro
225             230             235             240

Pro Gly Gln Phe Pro Phe Asp Phe Leu Gln Lys Glu Ala Glu Met Lys
            245             250             255

Gly Glu Lys Gly Asp Arg Gly Asp Ala Gly Gln Lys Gly Glu Arg Gly
            260             265             270

Glu Pro Gly Gly Gly Gly Phe Phe Gly Ser Ser Leu Pro Gly Ala Pro
        275             280             285

Gly Ala Pro Gly Pro Arg Gly Tyr Pro Gly Ile Pro Gly Pro Lys Gly
    290             295             300
```

Glu Ser Ile Arg Gly Gln Pro Gly Pro Pro Gly Pro Gln Gly Pro Pro
305   310   315   320

Gly Ile Gly Tyr Glu Gly Arg Gln Gly Pro Pro Gly Pro Pro Gly Pro
                325   330   335

Pro Gly Pro Pro Ser Phe Pro Gly Pro His Arg Gln Thr Ile Ser Val
            340   345   350

Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Pro Pro Gly Thr Met
            355   360   365

Gly Ala Ser Ser Gly Gln Val Arg Leu Trp Ala Thr Arg Gln Ala Met
    370   375   380

Leu Gly Gln Val His Glu Val Pro Glu Gly Trp Leu Ile Phe Val Ala
385   390   395   400

Glu Gln Glu Glu Leu Tyr Val Arg Val Gln Asn Gly Phe Arg Lys Val
            405   410   415

Gln Leu Glu Ala Arg Thr Pro Leu Pro Arg Gly Thr Asp Asn Glu Val
            420   425   430

Ala Ala Leu Gln Pro Pro Val Val Gln Leu His Asp Ser Asn Pro Tyr
            435   440   445

Pro Arg Arg Glu His Pro His Pro Thr Ala Arg Pro Trp Arg Ala Asp
    450   455   460

Asp Ile Leu Ala Ser Pro Pro Gly Leu Pro Glu Pro Gln Pro Tyr Pro
465   470   475   480

Gly Gly Pro His His Ser Ser Tyr Val His Cys Gly Pro Ala Arg Pro
            485   490   495

Thr Ser Pro Pro Ala His Ser His Arg Asp Phe Gln Pro Val Leu His
            500   505   510

Leu Val Ala Leu Asn Ser Pro Leu Ser Gly Gly Met Arg Gly Ile Arg
            515   520   525

Gly Ala Asp Phe Gln Cys Phe Gln Gln Ala Arg Ala Val Gly Leu Ala
    530   535   540

Gly Thr Phe Arg Ala Phe Leu Ser Ser Arg Leu Gln Asp Leu Tyr Ser
545   550   555   560

Ile Val Arg Arg Ala Asp Arg Ala Ala Val Pro Ile Val Asn Leu Lys
            565   570   575

Asp Glu Leu Leu Phe Pro Ser Trp Glu Ala Leu Phe Ser Gly Ser Glu
            580   585   590

Gly Pro Leu Lys Pro Gly Ala Arg Ile Phe Ser Phe Asp Gly Lys Asp
            595   600   605

Val Leu Arg His Pro Thr Trp Pro Gln Lys Ser Val Trp His Gly Ser
    610   615   620

Asp Pro Asn Gly Arg Arg Leu Thr Glu Ser Tyr Cys Glu Thr Trp Arg
625   630   635   640

Thr Glu Ala Pro Ser Ala Thr Gly Gln Ala Ser Ser Leu Leu Gly Gly
            645   650   655

Arg Leu Leu Gly Gln Ser Ala Ala Ser Cys His His Ala Tyr Ile Val
        660   665   670

Leu Cys Ile Glu Asn Ser Phe Met Thr Ala Ser Lys
    675   680

<210> 6
<211> 969
<212> PRT
<213> Homo sapiens

<400> 6
Met Pro Pro Arg Ala Pro Pro Ala Pro Gly Pro Arg Pro Pro Pro Arg
  1   5   10   15

Ala Ala Ala Ala Thr Asp Thr Ala Ala Gly Ala Gly Gly Ala Gly Gly
        20   25   30

Ala Gly Gly Ala Gly Gly Pro Gly Phe Arg Pro Leu Ala Pro Arg Pro
      35   40   45

Trp Arg Trp Leu Leu Leu Leu Ala Leu Pro Ala Ala Cys Ser Ala Pro
    50   55   60

Pro Pro Arg Pro Val Tyr Thr Asn His Trp Ala Val Gln Val Leu Gly
65   70   75   80

Gly Pro Ala Glu Ala Asp Arg Val Ala Ala Ala His Gly Tyr Leu Asn
        85   90   95

Leu Gly Gln Ile Gly Asn Leu Glu Asp Tyr Tyr His Phe Tyr His Ser
        100   105   110

Lys Thr Phe Lys Arg Ser Thr Leu Ser Ser Arg Gly Pro His Thr Phe
      115   120   125

Leu Arg Met Asp Pro Gln Val Lys Trp Leu Gln Gln Gln Glu Val Lys
    130   135   140

Arg Arg Val Lys Arg Gln Val Arg Ser Asp Pro Gln Ala Leu Tyr Phe
145   150   155   160

Asn Asp Pro Ile Trp Ser Asn Met Trp Tyr Leu His Cys Gly Asp Lys
        165   170   175

Asn Ser Arg Cys Arg Ser Glu Met Asn Val Gln Ala Ala Trp Lys Arg
        180   185   190

Gly Tyr Thr Gly Lys Asn Val Val Val Thr Ile Leu Asp Asp Gly Ile
        195   200   205

Glu Arg Asn His Pro Asp Leu Ala Pro Asn Tyr Asp Ser Tyr Ala Ser
    210   215   220

Tyr Asp Val Asn Gly Asn Asp Tyr Asp Pro Ser Pro Arg Tyr Asp Ala
225   230   235   240

Ser Asn Glu Asn Lys His Gly Thr Arg Cys Ala Gly Glu Val Ala Ala
            245   250   255

Ser Ala Asn Asn Ser Tyr Cys Ile Val Gly Ile Ala Tyr Asn Ala Lys
            260   265   270

Ile Gly Gly Ile Arg Met Leu Asp Gly Asp Val Thr Asp Val Val Glu
        275   280   285

Ala Lys Ser Leu Gly Ile Arg Pro Asn Tyr Ile Asp Ile Tyr Ser Ala
    290   295   300

Ser Trp Gly Pro Asp Asp Asp Gly Lys Thr Val Asp Gly Pro Gly Arg
305   310   315   320

Leu Ala Lys Gln Ala Phe Glu Tyr Gly Ile Lys Lys Gly Arg Gln Gly
            325   330   335

Leu Gly Ser Ile Phe Val Trp Ala Ser Gly Asn Gly Gly Arg Glu Gly
            340   345   350

Asp Tyr Cys Ser Cys Asp Gly Tyr Thr Asn Ser Ile Tyr Thr Ile Ser
        355   360   365

Val Ser Ser Ala Thr Glu Asn Gly Tyr Lys Pro Trp Tyr Leu Glu Glu
    370   375   380

Cys Ala Ser Thr Leu Ala Thr Thr Tyr Ser Ser Gly Ala Phe Tyr Glu
385   390   395   400

Arg Lys Ile Val Thr Thr Asp Leu Arg Gln Arg Cys Thr Asp Gly His
            405   410   415

Thr Gly Thr Ser Val Ser Ala Pro Met Val Ala Gly Ile Ile Ala Leu
            420   425   430

Ala Leu Glu Ala Asn Ser Gln Leu Thr Trp Arg Asp Val Gln His Leu
        435   440   445

Leu Val Lys Thr Ser Arg Pro Ala His Leu Lys Ala Ser Asp Trp Lys
    450   455   460

Val Asn Gly Ala Gly His Lys Val Ser His Phe Tyr Gly Phe Gly Leu
465   470   475   480

Val Asp Ala Glu Ala Leu Val Val Glu Ala Lys Lys Trp Thr Ala Val
            485   490   495

Pro Ser Gln His Met Cys Val Ala Ala Ser Asp Lys Arg Pro Arg Ser
            500   505   510

Ile Pro Leu Val Gln Val Leu Arg Thr Thr Ala Leu Thr Ser Ala Cys
        515   520   525

Ala Glu His Ser Asp Gln Arg Val Val Tyr Leu Glu His Val Val Val
    530   535   540

Arg Thr Ser Ile Ser His Pro Arg Arg Gly Asp Leu Gln Ile Tyr Leu
545   550   555   560

Val Ser Pro Ser Gly Thr Lys Ser Gln Leu Leu Ala Lys Arg Leu Leu
            565   570   575

Asp Leu Ser Asn Glu Gly Phe Thr Asn Trp Glu Phe Met Thr Val His
        580   585   590

Cys Trp Gly Glu Lys Ala Glu Gly Gln Trp Thr Leu Glu Ile Gln Asp
        595   600   605

Leu Pro Ser Gln Val Arg Asn Pro Glu Lys Gln Gly Lys Leu Lys Glu
    610   615   620

Trp Ser Leu Ile Leu Tyr Gly Thr Ala Glu His Pro Tyr His Thr Phe
625   630   635   640

Ser Ala His Gln Ser Arg Ser Arg Met Leu Glu Leu Ser Ala Pro Glu
            645   650   655

Leu Glu Pro Pro Lys Ala Ala Leu Ser Pro Ser Gln Val Glu Val Pro
            660   665   670

Glu Asp Glu Glu Asp Tyr Thr Ala Gln Ser Thr Pro Gly Ser Ala Asn
        675   680   685

Ile Leu Gln Thr Ser Val Cys His Pro Glu Cys Gly Asp Lys Gly Cys
    690   695   700

Asp Gly Pro Asn Ala Asp Gln Cys Leu Asn Cys Val His Phe Ser Leu
705   710   715   720

Gly Ser Val Lys Thr Ser Arg Lys Cys Val Ser Val Cys Pro Leu Gly
            725   730   735

Tyr Phe Gly Asp Thr Ala Ala Arg Arg Cys Arg Arg Cys His Lys Gly
        740   745   750

Cys Glu Thr Cys Ser Ser Arg Ala Ala Thr Gln Cys Leu Ser Cys Arg
        755   760   765

Arg Gly Phe Tyr His His Gln Glu Met Asn Thr Cys Val Thr Leu Cys
    770   775   780

Pro Ala Gly Phe Tyr Ala Asp Glu Ser Gln Lys Asn Cys Leu Lys Cys
785   790   795   800

```
His Pro Ser Cys Lys Lys Cys Val Asp Glu Pro Glu Lys Cys Thr Val
            805             810             815

Cys Lys Glu Gly Phe Ser Leu Ala Arg Gly Ser Cys Ile Pro Asp Cys
            820             825             830

Glu Pro Gly Thr Tyr Phe Asp Ser Glu Leu Ile Arg Cys Gly Glu Cys
            835             840             845

His His Thr Cys Gly Thr Cys Val Gly Pro Gly Arg Glu Glu Cys Ile
    850             855             860

His Cys Ala Lys Asn Phe His Phe His Asp Trp Lys Cys Val Pro Ala
865             870             875             880

Cys Gly Glu Gly Phe Tyr Pro Glu Glu Met Pro Gly Leu Pro His Lys
            885             890             895

Val Cys Arg Arg Cys Asp Glu Asn Cys Leu Ser Cys Ala Gly Ser Ser
            900             905             910

Arg Asn Cys Ser Arg Cys Lys Thr Gly Phe Thr Gln Leu Gly Thr Ser
            915             920             925

Cys Ile Thr Asn His Thr Cys Ser Asn Ala Asp Glu Thr Phe Cys Glu
            930             935             940

Met Val Lys Ser Asn Arg Leu Cys Glu Arg Lys Leu Phe Ile Gln Phe
945             950             955             960

Cys Cys Arg Thr Cys Leu Leu Ala Gly
                965
```

<210> 7
<211> 3070
<212> PRT
<213> Homo sapiens

<400> 7
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Met Pro Gly Ala Ala Gly Val Leu Leu Leu Leu Leu Leu Ser Gly Gly
1               5               10              15

Leu Gly Gly Val Gln Ala Gln Arg Pro Gln Gln Gln Arg Gln Ser Gln
            20              25              30

Ala His Gln Gln Arg Gly Leu Phe Pro Ala Val Leu Asn Leu Ala Ser
            35              40              45

Asn Ala Leu Ile Thr Thr Asn Ala Thr Cys Gly Glu Lys Gly Pro Glu
    50              55              60

Met Tyr Cys Lys Leu Val Glu His Val Pro Gly Gln Pro Val Arg Asn
65              70              75              80

Pro Gln Cys Arg Ile Cys Asn Gln Asn Ser Ser Asn Pro Asn Gln Arg
            85              90              95
```

His Pro Ile Thr Asn Ala Ile Asp Gly Lys Asn Thr Trp Trp Gln Ser
         100   105   110

Pro Ser Ile Lys Asn Gly Ile Glu Tyr His Tyr Val Thr Ile Thr Leu
         115   120   125

Asp Leu Gln Gln Val Phe Gln Ile Ala Tyr Val Ile Val Lys Ala Ala
   130   135   140

Asn Ser Pro Arg Pro Gly Asn Trp Ile Leu Glu Arg Ser Leu Asp Asp
145   150   155   160

Val Glu Tyr Lys Pro Trp Gln Tyr His Ala Val Thr Asp Thr Glu Cys
         165   170   175

Leu Thr Leu Tyr Asn Ile Tyr Pro Arg Thr Gly Pro Pro Ser Tyr Ala
         180   185   190

Lys Asp Asp Glu Val Ile Cys Thr Ser Phe Tyr Ser Lys Ile His Pro
         195   200   205

Leu Glu Asn Gly Glu Ile His Ile Ser Leu Ile Asn Gly Arg Pro Ser
   210   215   220

Ala Asp Asp Pro Ser Pro Glu Leu Leu Glu Phe Thr Ser Ala Arg Tyr
225   230   235   240

Ile Arg Leu Arg Phe Gln Arg Ile Arg Thr Leu Asn Ala Asp Leu Met
         245   250   255

Met Phe Ala His Lys Asp Pro Arg Glu Ile Asp Pro Ile Val Thr Arg
         260   265   270

Arg Tyr Tyr Tyr Ser Val Lys Asp Ile Ser Val Gly Gly Met Cys Ile
         275   280   285

Cys Tyr Gly His Ala Arg Ala Cys Pro Leu Asp Pro Ala Thr Asn Lys
         290   295   300

Ser Arg Cys Glu Cys Glu His Asn Thr Cys Gly Asp Ser Cys Asp Gln
305   310   315   320

Cys Cys Pro Gly Phe His Gln Lys Pro Trp Arg Ala Gly Thr Phe Leu
         325   330   335

Thr Lys Thr Glu Cys Glu Ala Cys Asn Cys His Gly Lys Ala Glu Glu
         340   345   350

Cys Tyr Tyr Asp Glu Asn Val Ala Arg Arg Asn Leu Ser Leu Asn Ile
         355   360   365

Arg Gly Lys Tyr Ile Gly Gly Gly Val Cys Ile Asn Cys Thr Gln Asn
   370   375   380

Thr Ala Gly Ile Asn Cys Glu Thr Cys Thr Asp Gly Phe Phe Arg Pro
385   390   395   400

Lys Gly Val Ser Pro Asn Tyr Pro Arg Pro Cys Gln Pro Cys His Cys
            405   410   415

Asp Pro Ile Gly Ser Leu Asn Glu Val Cys Val Lys Asp Glu Lys His
            420   425   430

Ala Arg Arg Gly Leu Ala Pro Gly Ser Cys His Cys Lys Thr Gly Phe
        435   440   445

Gly Gly Val Ser Cys Asp Arg Cys Ala Arg Gly Tyr Thr Gly Tyr Pro
    450   455   460

Asp Cys Lys Ala Cys Asn Cys Ser Gly Leu Gly Ser Lys Asn Glu Asp
465   470   475   480

Pro Cys Phe Gly Pro Cys Ile Cys Lys Glu Asn Val Glu Gly Gly Asp
            485   490   495

Cys Ser Arg Cys Lys Ser Gly Phe Phe Asn Leu Gln Glu Asp Asn Trp
        500   505   510

Lys Gly Cys Asp Glu Cys Phe Cys Ser Gly Val Ser Asn Arg Cys Gln
        515   520   525

Ser Ser Tyr Trp Thr Tyr Gly Lys Ile Gln Asp Met Ser Gly Trp Tyr
    530   535   540

Leu Thr Asp Leu Pro Gly Arg Ile Arg Val Ala Pro Gln Gln Asp Asp
545   550   555   560

Leu Asp Ser Pro Gln Gln Ile Ser Ile Ser Asn Ala Glu Ala Arg Gln
            565   570   575

Ala Leu Pro His Ser Tyr Tyr Trp Ser Ala Pro Ala Pro Tyr Leu Gly
            580   585   590

Asn Lys Leu Pro Ala Val Gly Gly Gln Leu Thr Phe Thr Ile Ser Tyr
        595   600   605

Asp Leu Glu Glu Glu Glu Glu Asp Thr Glu Arg Val Leu Gln Leu Met
    610   615   620

Ile Ile Leu Glu Gly Asn Asp Leu Ser Ile Ser Thr Ala Gln Asp Glu
625   630   635   640

Val Tyr Leu His Pro Ser Glu Glu His Thr Asn Val Leu Leu Leu Lys
            645   650   655

Glu Glu Ser Phe Thr Ile His Gly Thr His Phe Pro Val Arg Arg Lys
            660   665   670

Glu Phe Met Thr Val Leu Ala Asn Leu Lys Arg Val Leu Leu Gln Ile
        675   680   685

Thr Tyr Ser Phe Gly Met Asp Ala Ile Phe Arg Leu Ser Ser Val Asn
    690   695   700

Leu Glu Ser Ala Val Ser Tyr Pro Thr Asp Gly Ser Ile Ala Ala Ala
705   710   715   720

Val Glu Val Cys Gln Cys Pro Pro Gly Tyr Thr Gly Ser Ser Cys Glu
             725   730   735

Ser Cys Trp Pro Arg His Arg Arg Val Asn Gly Thr Ile Phe Gly Gly
         740   745   750

Ile Cys Glu Pro Cys Gln Cys Phe Gly His Ala Glu Ser Cys Asp Asp
         755   760   765

Val Thr Gly Glu Cys Leu Asn Cys Lys Asp His Thr Gly Gly Pro Tyr
     770   775   780

Cys Asp Lys Cys Leu Pro Gly Phe Tyr Gly Glu Pro Thr Lys Gly Thr
785   790   795   800

Ser Glu Asp Cys Gln Pro Cys Ala Cys Pro Leu Asn Ile Pro Ser Asn
             805   810   815

Asn Phe Ser Pro Thr Cys His Leu Asp Arg Ser Leu Gly Leu Ile Cys
         820   825   830

Asp Gly Cys Pro Val Gly Tyr Thr Gly Pro Arg Cys Glu Arg Cys Ala
         835   840   845

Glu Gly Tyr Phe Gly Gln Pro Ser Val Pro Gly Gly Ser Cys Gln Pro
     850   855   860

Cys Gln Cys Asn Asp Asn Leu Asp Phe Ser Ile Pro Gly Ser Cys Asp
865   870   875   880

Ser Leu Ser Gly Ser Cys Leu Ile Cys Lys Pro Gly Thr Thr Gly Arg
             885   890   895

Tyr Cys Glu Leu Cys Ala Asp Gly Tyr Phe Gly Asp Ala Val Asp Ala
         900   905   910

Lys Asn Cys Gln Pro Cys Arg Cys Asn Ala Gly Gly Ser Phe Ser Glu
         915   920   925

Val Cys His Ser Gln Thr Gly Gln Cys Glu Cys Arg Ala Asn Val Gln
     930   935   940

Gly Gln Arg Cys Asp Lys Cys Lys Ala Gly Thr Phe Gly Leu Gln Ser
945   950   955   960

Ala Arg Gly Cys Val Pro Cys Asn Cys Asn Ser Phe Gly Ser Lys Ser
             965   970   975

Phe Asp Cys Glu Glu Ser Gly Gln Cys Trp Cys Gln Pro Gly Val Thr
         980   985   990

Gly Lys Lys Cys Asp Arg Cys Ala His Gly Tyr Phe Asn Phe Gln Glu
     995   1000   1005

Gly Gly Cys Thr Ala Cys Glu Cys Ser His Leu Gly Asn Asn Cys Asp
  1010   1015   1020

Pro Lys Thr Gly Arg Cys Ile Cys Pro Pro Asn Thr Ile Gly Glu Lys
1025   1030   1035   1040

Cys Ser Lys Cys Ala Pro Asn Thr Trp Gly His Ser Ile Thr Thr Gly
              1045   1050   1055

Cys Lys Ala Cys Asn Cys Ser Thr Val Gly Ser Leu Asp Phe Gln Cys
              1060   1065   1070

Asn Val Asn Thr Gly Gln Cys Asn Cys His Pro Lys Phe Ser Gly Ala
          1075   1080   1085

Lys Cys Thr Glu Cys Ser Arg Gly His Trp Asn Tyr Pro Arg Cys Asn
    1090   1095   1100

Leu Cys Asp Cys Phe Leu Pro Gly Thr Asp Ala Thr Thr Cys Asp Ser
1105   1110   1115   1120

Glu Thr Lys Lys Cys Ser Cys Ser Asp Gln Thr Gly Gln Cys Thr Cys
              1125   1130   1135

Lys Val Asn Val Glu Gly Ile His Cys Asp Arg Cys Arg Pro Gly Lys
          1140   1145   1150

Phe Gly Leu Asp Ala Lys Asn Pro Leu Gly Cys Ser Ser Cys Tyr Cys
      1155   1160   1165

Phe Gly Thr Thr Thr Gln Cys Ser Glu Ala Lys Gly Leu Ile Arg Thr
    1170   1175   1180

Trp Val Thr Leu Lys Ala Glu Gln Thr Ile Leu Pro Leu Val Asp Glu
1185   1190   1195   1200

Ala Leu Gln His Thr Thr Thr Lys Gly Ile Val Phe Gln His Pro Glu
              1205   1210   1215

Ile Val Ala His Met Asp Leu Met Arg Glu Asp Leu His Leu Glu Pro
          1220   1225   1230

Phe Tyr Trp Lys Leu Pro Glu Gln Phe Glu Gly Lys Lys Leu Met Ala
      1235   1240   1245

Tyr Gly Gly Lys Leu Lys Tyr Ala Ile Tyr Phe Glu Ala Arg Glu Glu
    1250   1255   1260

Thr Gly Phe Ser Thr Tyr Asn Pro Gln Val Ile Ile Arg Gly Gly Thr
1265   1270   1275   1280

Pro Thr His Ala Arg Ile Ile Val Arg His Met Ala Ala Pro Leu Ile
          1285   1290   1295

Gly Gln Leu Thr Arg His Glu Ile Glu Met Thr Glu Lys Glu Trp Lys
      1300   1305   1310

Tyr Tyr Gly Asp Asp Pro Arg Val His Arg Thr Val Thr Arg Glu Asp
    1315   1320   1325

Phe Leu Asp Ile Leu Tyr Asp Ile His Tyr Ile Leu Ile Lys Ala Thr
1330   1335   1340

Tyr Gly Asn Phe Met Arg Gln Ser Arg Ile Ser Glu Ile Ser Met Glu
1345   1350   1355   1360

Val Ala Glu Gln Gly Arg Gly Thr Thr Met Thr Pro Pro Ala Asp Leu
          1365   1370   1375

Ile Glu Lys Cys Asp Cys Pro Leu Gly Tyr Ser Gly Leu Ser Cys Glu
        1380   1385   1390

Ala Cys Leu Pro Gly Phe Tyr Arg Leu Arg Ser Gln Pro Gly Gly Arg
      1395   1400   1405

Thr Pro Gly Pro Thr Leu Gly Thr Cys Val Pro Cys Gln Cys Asn Gly
    1410   1415   1420

His Ser Ser Leu Cys Asp Pro Glu Thr Ser Ile Cys Gln Asn Cys Gln
1425   1430   1435   1440

His His Thr Ala Gly Asp Phe Cys Glu Arg Cys Ala Leu Gly Tyr Tyr
          1445   1450   1455

Gly Ile Val Lys Gly Leu Pro Asn Asp Cys Gln Gln Cys Ala Cys Pro
        1460   1465   1470

Leu Ile Ser Ser Ser Asn Asn Phe Ser Pro Ser Cys Val Ala Glu Gly
      1475   1480   1485

Leu Asp Asp Tyr Arg Cys Thr Ala Cys Pro Arg Gly Tyr Glu Gly Gln
    1490   1495   1500

Tyr Cys Glu Arg Cys Ala Pro Gly Tyr Thr Gly Ser Pro Gly Asn Pro
1505   1510   1515   1520

Gly Gly Ser Cys Gln Glu Cys Glu Cys Asp Pro Tyr Gly Ser Leu Pro
        1525   1530   1535

Val Pro Cys Asp Pro Val Thr Gly Phe Cys Thr Cys Arg Pro Gly Ala
        1540   1545   1550

Thr Gly Arg Lys Cys Asp Gly Cys Lys His Trp His Ala Arg Glu Gly
      1555   1560   1565

Trp Glu Cys Val Phe Cys Gly Asp Glu Cys Thr Gly Leu Leu Leu Gly
    1570   1575   1580

Asp Leu Ala Arg Leu Glu Gln Met Val Met Ser Ile Asn Leu Thr Gly
1585   1590   1595   1600

Pro Leu Pro Ala Pro Tyr Lys Met Leu Tyr Gly Leu Glu Asn Met Thr
        1605   1610   1615

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Gln Glu Leu Lys His Leu Leu Ser Pro Gln Arg Ala Pro Glu Arg Leu
          1620                1625              1630

Ile Gln Leu Ala Glu Gly Asn Leu Asn Thr Leu Val Thr Glu Met Asn
        1635                1640              1645

Glu Leu Leu Thr Arg Ala Thr Lys Val Thr Ala Asp Gly Glu Gln Thr
    1650                1655              1660

Gly Gln Asp Ala Glu Arg Thr Asn Thr Arg Ala Lys Ser Leu Gly Glu
1665                1670              1675              1680

Phe Ile Lys Glu Leu Ala Arg Asp Ala Glu Ala Val Asn Glu Lys Ala
          1685                1690              1695

Ile Lys Leu Asn Glu Thr Leu Gly Thr Arg Asp Glu Ala Phe Glu Arg
        1700                1705              1710

Asn Leu Glu Gly Leu Gln Lys Glu Ile Asp Gln Met Ile Lys Glu Leu
        1715                1720              1725

Arg Arg Lys Asn Leu Glu Thr Gln Lys Glu Ile Ala Glu Asp Glu Leu
    1730                1735              1740

Val Ala Ala Glu Ala Leu Leu Lys Lys Val Lys Lys Leu Phe Gly Glu
1745                1750              1755              1760

Ser Arg Gly Glu Asn Glu Glu Met Glu Lys Asp Leu Arg Glu Lys Leu
          1765                1770              1775

Ala Asp Tyr Lys Asn Lys Val Asp Asp Ala Trp Asp Leu Leu Arg Glu
          1780                1785              1790

Ala Thr Asp Lys Ile Arg Glu Ala Asn Arg Leu Phe Ala Val Asn Gln
      1795                1800              1805

Lys Asn Met Thr Ala Leu Glu Lys Lys Lys Glu Ala Val Glu Ser Gly
    1810                1815              1820

Lys Arg Gln Ile Glu Asn Thr Leu Lys Glu Gly Asn Asp Ile Leu Asp
1825                1830              1835              1840

Glu Ala Asn Arg Leu Ala Asp Glu Ile Asn Ser Ile Ile Asp Tyr Val
          1845                1850              1855

Glu Asp Ile Gln Thr Lys Leu Pro Pro Met Ser Glu Glu Leu Asn Asp
          1860                1865              1870

Lys Ile Asp Asp Leu Ser Gln Glu Ile Lys Asp Arg Lys Leu Ala Glu
        1875                1880              1885

Lys Val Ser Gln Ala Glu Ser His Ala Ala Gln Leu Asn Asp Ser Ser
    1890                1895              1900

Ala Val Leu Asp Gly Ile Leu Asp Glu Ala Lys Asn Ile Ser Phe Asn
1905                1910              1915              1920
```

Ala Thr Ala Ala Phe Lys Ala Tyr Ser Asn Ile Lys Asp Tyr Ile Asp
          1925   1930   1935

Glu Ala Glu Lys Val Ala Lys Glu Ala Lys Asp Leu Ala His Glu Ala
            1940   1945   1950

Thr Lys Leu Ala Thr Gly Pro Arg Gly Leu Leu Lys Glu Asp Ala Lys
        1955   1960   1965

Gly Cys Leu Gln Lys Ser Phe Arg Ile Leu Asn Glu Ala Lys Lys Leu
    1970   1975   1980

Ala Asn Asp Val Lys Glu Asn Glu Asp His Leu Asn Gly Leu Lys Thr
1985   1990   1995   2000

Arg Ile Glu Asn Ala Asp Ala Arg Asn Gly Asp Leu Leu Arg Thr Leu
            2005   2010   2015

Asn Asp Thr Leu Gly Lys Leu Ser Ala Ile Pro Asn Asp Thr Ala Ala
            2020   2025   2030

Lys Leu Gln Ala Val Lys Asp Lys Ala Arg Gln Ala Asn Asp Thr Ala
        2035   2040   2045

Lys Asp Val Leu Ala Gln Ile Thr Glu Leu His Gln Asn Leu Asp Gly
    2050   2055   2060

Leu Lys Lys Asn Tyr Asn Lys Leu Ala Asp Ser Val Ala Lys Thr Asn
2065   2070   2075   2080

Ala Val Val Lys Asp Pro Ser Lys Asn Lys Ile Ile Ala Asp Ala Asp
            2085   2090   2095

Ala Thr Val Lys Asn Leu Glu Gln Glu Ala Asp Arg Leu Ile Asp Lys
        2100   2105   2110

Leu Lys Pro Ile Lys Glu Leu Glu Asp Asn Leu Lys Lys Asn Ile Ser
        2115   2120   2125

Glu Ile Lys Glu Leu Ile Asn Gln Ala Arg Lys Gln Ala Asn Ser Ile
    2130   2135   2140

Lys Val Ser Val Ser Ser Gly Gly Asp Cys Ile Arg Thr Tyr Lys Pro
2145   2150   2155   2160

Glu Ile Lys Lys Gly Ser Tyr Asn Asn Ile Val Val Asn Val Lys Thr
            2165   2170   2175

Ala Val Ala Asp Asn Leu Leu Phe Tyr Leu Gly Ser Ala Lys Phe Ile
        2180   2185   2190

Asp Phe Leu Ala Ile Glu Met Arg Lys Gly Lys Val Ser Phe Leu Trp
        2195   2200   2205

Asp Val Gly Ser Gly Val Gly Arg Val Glu Tyr Pro Asp Leu Thr Ile
    2210   2215   2220

Asp Asp Ser Tyr Trp Tyr Arg Ile Val Ala Ser Arg Thr Gly Arg Asn
2225   2230   2235   2240

Gly Thr Ile Ser Val Arg Ala Leu Asp Gly Pro Lys Ala Ser Ile Val
          2245   2250   2255

Pro Ser Thr His His Ser Thr Ser Pro Pro Gly Tyr Thr Ile Leu Asp
        2260   2265   2270

Val Asp Ala Asn Ala Met Leu Phe Val Gly Gly Leu Thr Gly Lys Leu
      2275   2280   2285

Lys Lys Ala Asp Ala Val Arg Val Ile Thr Phe Thr Gly Cys Met Gly
    2290   2295   2300

Glu Thr Tyr Phe Asp Asn Lys Pro Ile Gly Leu Trp Asn Phe Arg Glu
2305   2310   2315   2320

Lys Glu Gly Asp Cys Lys Gly Cys Thr Val Ser Pro Gln Val Glu Asp
          2325   2330   2335

Ser Glu Gly Thr Ala Thr Arg Asp Leu Arg Asp Phe Met Ser Val Glu
        2340   2345   2350

Leu Thr Asp Gly His Ile Lys Val Ser Tyr Asp Leu Gly Ser Gly Met
      2355   2360   2365

Ala Ser Val Val Ser Asn Gln Asn His Asn Asp Gly Lys Trp Lys Ser
    2370   2375   2380

Phe Thr Leu Ser Arg Ile Gln Lys Gln Ala Asn Ile Ser Ile Val Asp
2385   2390   2395   2400

Ile Asp Thr Asn Gln Glu Glu Asn Ile Ala Thr Ser Ser Ser Gly Asn
          2405   2410   2415

Asn Phe Gly Leu Asp Leu Lys Ala Asp Asp Lys Ile Tyr Phe Gly Gly
          2420   2425   2430

Leu Pro Thr Leu Arg Asn Leu Ser Met Lys Ala Arg Pro Glu Val Asn
        2435   2440   2445

Leu Lys Lys Tyr Ser Gly Cys Leu Lys Asp Ile Glu Ile Ser Arg Thr
    2450   2455   2460

Pro Tyr Asn Ile Leu Ser Ser Pro Asp Tyr Val Gly Val Thr Lys Gly
2465   2470   2475   2480

Cys Ser Leu Glu Asn Val Tyr Thr Val Ser Phe Pro Lys Pro Gly Phe
          2485   2490   2495

Val Glu Leu Ser Pro Val Pro Ile Asp Val Gly Thr Glu Ile Asn Leu
        2500   2505   2510

Ser Phe Ser Thr Lys Asn Glu Ser Gly Ile Ile Leu Leu Gly Ser Gly
        2515   2520   2525

Gly Thr Pro Ala Pro Pro Arg Arg Lys Arg Arg Gln Thr Gly Gln Ala
   2530   2535   2540

Tyr Tyr Val Ile Leu Leu Asn Arg Gly Arg Leu Glu Val His Leu Ser
2545   2550   2555   2560

Thr Gly Ala Arg Thr Met Arg Lys Ile Val Ile Arg Pro Glu Pro Asn
         2565   2570   2575

Leu Phe His Asp Gly Arg Glu His Ser Val His Val Glu Arg Thr Arg
         2580   2585   2590

Gly Ile Phe Thr Val Gln Val Asp Glu Asn Arg Arg Tyr Met Gln Asn
        2595   2600   2605

Leu Thr Val Glu Gln Pro Ile Glu Val Lys Lys Leu Phe Val Gly Gly
   2610   2615   2620

Ala Pro Pro Glu Phe Gln Pro Ser Pro Leu Arg Asn Ile Pro Pro Phe
2625   2630   2635   2640

Glu Gly Cys Ile Trp Asn Leu Val Ile Asn Ser Val Pro Met Asp Phe
         2645   2650   2655

Ala Arg Pro Val Ser Phe Lys Asn Ala Asp Ile Gly Arg Cys Ala His
        2660   2665   2670

Gln Lys Leu Arg Glu Asp Glu Asp Gly Ala Ala Pro Ala Glu Ile Val
      2675   2680   2685

Ile Gln Pro Glu Pro Val Pro Thr Pro Ala Phe Pro Thr Pro Thr Pro
2690   2695   2700

Val Leu Thr His Gly Pro Cys Ala Ala Glu Ser Glu Pro Ala Leu Leu
2705   2710   2715   2720

Ile Gly Ser Lys Gln Phe Gly Leu Ser Arg Asn Ser His Ile Ala Ile
        2725   2730   2735

Ala Phe Asp Asp Thr Lys Val Lys Asn Arg Leu Thr Ile Glu Leu Glu
        2740   2745   2750

Val Arg Thr Glu Ala Glu Ser Gly Leu Leu Phe Tyr Met Ala Ala Ile
      2755   2760   2765

Asn His Ala Asp Phe Ala Thr Val Gln Leu Arg Asn Gly Leu Pro Tyr
  2770   2775   2780

Phe Ser Tyr Asp Leu Gly Ser Gly Asp Thr His Thr Met Ile Pro Thr
2785   2790   2795   2800

Lys Ile Asn Asp Gly Gln Trp His Lys Ile Lys Ile Met Arg Ser Lys
        2805   2810   2815

Gln Glu Gly Ile Leu Tyr Val Asp Gly Ala Ser Asn Arg Thr Ile Ser
      2820   2825   2830

Pro Lys Lys Ala Asp Ile Leu Asp Val Val Gly Met Leu Tyr Val Gly
     2835   2840   2845

Gly Leu Pro Ile Asn Tyr Thr Thr Arg Arg Ile Gly Pro Val Thr Tyr
     2850   2855   2860

Ser Ile Asp Gly Cys Val Arg Asn Leu His Met Ala Glu Ala Pro Ala
2865   2870   2875   2880

Asp Leu Glu Gln Pro Thr Ser Ser Phe His Val Gly Thr Cys Phe Ala
          2885   2890   2895

Asn Ala Gln Arg Gly Thr Tyr Phe Asp Gly Thr Gly Phe Ala Lys Ala
          2900   2905   2910

Val Gly Gly Phe Lys Val Gly Leu Asp Leu Leu Val Glu Phe Glu Phe
       2915   2920   2925

Ala Thr Thr Thr Thr Thr Gly Val Leu Leu Gly Ile Ser Ser Gln Lys
     2930   2935   2940

Met Asp Gly Met Gly Ile Glu Met Ile Asp Glu Lys Leu Met Phe His
2945   2950   2955   2960

Val Asp Asn Gly Ala Gly Arg Phe Thr Ala Val Tyr Asp Ala Gly Val
          2965   2970   2975

Pro Gly His Leu Cys Asp Gly Gln Trp His Lys Val Thr Ala Asn Lys
          2980   2985   2990

Ile Lys His Arg Ile Glu Leu Thr Val Asp Gly Asn Gln Val Glu Ala
       2995   3000   3005

Gln Ser Pro Asn Pro Ala Ser Thr Ser Ala Asp Thr Asn Asp Pro Val
   3010   3015   3020

Phe Val Gly Gly Phe Pro Asp Asp Leu Lys Gln Phe Gly Leu Thr Thr
3025   3030   3035   3040

Ser Ile Pro Phe Arg Gly Cys Ile Arg Ser Leu Lys Leu Thr Lys Gly
          3045   3050   3055

Thr Ala Ser His Trp Arg Leu Ile Leu Pro Arg Pro Trp Asn
       3060   3065   3070

<210> 8
<211> 730
<212> PRT
<213> Homo sapiens

<400> 8
Met Ala Gly Leu Thr Ala Ala Ala Pro Arg Pro Gly Val Leu Leu Leu
  1   5   10   15

Leu Leu Ser Ile Leu His Pro Ser Arg Pro Gly Gly Val Pro Gly Ala
      20   25   30

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Ile Pro Gly Gly Val Pro Gly Gly Val Phe Tyr Pro Gly Ala Gly Leu
        35              40              45

Gly Ala Leu Gly Gly Gly Ala Leu Gly Pro Gly Gly Lys Pro Leu Lys
        50              55              60

Pro Val Pro Gly Gly Leu Ala Gly Ala Gly Leu Gly Ala Gly Leu Gly
65              70              75              80

Ala Phe Pro Ala Val Thr Phe Pro Gly Ala Leu Val Pro Gly Gly Val
                85              90              95

Ala Asp Ala Ala Ala Ala Tyr Lys Ala Ala Lys Ala Gly Ala Gly Leu
            100             105             110

Gly Gly Val Pro Gly Val Gly Gly Leu Gly Val Ser Ala Gly Ala Val
        115             120             125

Val Pro Gln Pro Gly Ala Gly Val Lys Pro Gly Lys Val Pro Gly Val
    130             135             140

Gly Leu Pro Gly Val Tyr Pro Gly Gly Val Leu Pro Gly Ala Arg Phe
145             150             155             160

Pro Gly Val Gly Val Leu Pro Gly Val Pro Thr Gly Ala Gly Val Lys
            165             170             175

Pro Lys Ala Pro Gly Val Gly Gly Ala Phe Ala Gly Ile Pro Gly Val
            180             185             190

Gly Pro Phe Gly Gly Pro Gln Pro Gly Val Pro Leu Gly Tyr Pro Ile
        195             200             205

Lys Ala Pro Lys Leu Pro Gly Gly Tyr Gly Leu Pro Tyr Thr Thr Gly
    210             215             220

Lys Leu Pro Tyr Gly Tyr Gly Pro Gly Gly Val Ala Gly Ala Ala Gly
225             230             235             240

Lys Ala Gly Tyr Pro Thr Gly Thr Gly Val Gly Pro Gln Ala Ala Ala
            245             250             255

Ala Ala Ala Ala Lys Ala Ala Ala Lys Phe Gly Ala Gly Ala Ala Gly
            260             265             270

Val Leu Pro Gly Val Gly Gly Ala Gly Val Pro Gly Val Pro Gly Ala
    275             280             285

Ile Pro Gly Ile Gly Gly Ile Ala Gly Val Gly Thr Pro Ala Ala Ala
    290             295             300

Ala Ala Ala Ala Ala Ala Ala Lys Ala Ala Lys Tyr Gly Ala Ala Ala
305             310             315             320

Gly Leu Val Pro Gly Gly Pro Gly Phe Gly Pro Gly Val Val Gly Val
            325             330             335
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Pro Gly Ala Gly Val Pro Gly Val Gly Val Pro Gly Ala Gly Ile Pro
            340   345   350

Val Val Pro Gly Ala Gly Ile Pro Gly Ala Ala Val Pro Gly Val Val
        355   360   365

Ser Pro Glu Ala Ala Ala Lys Ala Ala Ala Lys Ala Ala Lys Tyr Gly
    370   375   380

Ala Arg Pro Gly Val Gly Val Gly Gly Ile Pro Thr Tyr Gly Val Gly
385   390   395   400

Ala Gly Gly Phe Pro Gly Phe Gly Val Gly Val Gly Gly Ile Pro Gly
                405   410   415

Val Ala Gly Val Pro Ser Val Gly Gly Val Pro Gly Val Gly Gly Val
            420   425   430

Pro Gly Val Gly Ile Ser Pro Glu Ala Gln Ala Ala Ala Ala Ala Lys
        435   440   445

Ala Ala Lys Tyr Gly Val Gly Thr Pro Ala Ala Ala Ala Ala Lys Ala
    450   455   460

Ala Ala Lys Ala Ala Gln Phe Ala Leu Leu Asn Leu Ala Gly Leu Val
465   470   475   480

Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly
            485   490   495

Val Ala Pro Gly Val Gly Leu Ala Pro Gly Val Gly Val Ala Pro Gly
        500   505   510

Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Ile Gly Pro Gly
    515   520   525

Gly Val Ala Ala Ala Ala Lys Ser Ala Ala Lys Val Ala Ala Lys Ala
    530   535   540

Gln Leu Arg Ala Ala Ala Gly Leu Gly Ala Gly Ile Pro Gly Leu Gly
545   550   555   560

Val Gly Val Gly Val Pro Gly Leu Gly Val Gly Ala Gly Val Pro Gly
        565   570   575

Leu Gly Val Gly Ala Gly Val Pro Gly Phe Gly Ala Val Pro Gly Ala
        580   585   590

Leu Ala Ala Ala Lys Ala Ala Lys Tyr Gly Ala Ala Val Pro Gly Val
    595   600   605

Leu Gly Gly Leu Gly Ala Leu Gly Gly Val Gly Ile Pro Gly Gly Val
    610   615   620

Val Gly Ala Gly Pro Ala Ala Ala Ala Ala Ala Lys Ala Ala Ala
625   630   635   640

Lys Ala Ala Gln Phe Gly Leu Val Gly Ala Ala Gly Leu Gly Gly Leu
            645   650   655

Gly Val Gly Gly Leu Gly Val Pro Gly Val Gly Gly Leu Gly Gly Ile
            660   665   670

Pro Pro Ala Ala Ala Ala Lys Ala Ala Lys Tyr Gly Ala Ala Gly Leu
            675   680   685

Gly Gly Val Leu Gly Gly Ala Gly Gln Phe Pro Leu Gly Gly Val Ala
            690   695   700

Ala Arg Pro Gly Phe Gly Leu Ser Pro Ile Phe Pro Gly Gly Ala Cys
705   710   715   720

Leu Gly Lys Ala Cys Gly Arg Lys Arg Lys
            725   730

<210> 9
<211> 1712
<212> PRT
<213> Homo sapiens

<400> 9
Met Gly Arg Asp Gln Arg Ala Val Ala Gly Pro Ala Leu Arg Arg Trp
 1   5   10   15

Leu Leu Leu Gly Thr Val Thr Val Gly Phe Leu Ala Gln Ser Val Leu
            20   25   30

Ala Gly Val Lys Lys Phe Asp Val Pro Cys Gly Gly Arg Asp Cys Ser
            35   40   45

Gly Gly Cys Gln Cys Tyr Pro Glu Lys Gly Gly Arg Gly Gln Pro Gly
    50   55   60

Pro Val Gly Pro Gln Gly Tyr Asn Gly Pro Pro Gly Leu Gln Gly Phe
65   70   75   80

Pro Gly Leu Gln Gly Arg Lys Gly Asp Lys Gly Glu Arg Gly Ala Pro
            85   90   95

Gly Val Thr Gly Pro Lys Gly Asp Val Gly Ala Arg Gly Val Ser Gly
            100   105   110

Phe Pro Gly Ala Asp Gly Ile Pro Gly His Pro Gly Gln Gly Gly Pro
            115   120   125

Arg Gly Arg Pro Gly Tyr Asp Gly Cys Asn Gly Thr Gln Gly Asp Ser
    130   135   140

Gly Pro Gln Gly Pro Pro Gly Ser Glu Gly Phe Thr Gly Pro Pro Gly
145   150   155   160

Pro Gln Gly Pro Lys Gly Gln Lys Gly Glu Pro Tyr Ala Leu Pro Lys
            165   170   175

Glu Glu Arg Asp Arg Tyr Arg Gly Glu Pro Gly Glu Pro Gly Leu Val
            180   185   190

Gly Phe Gln Gly Pro Pro Gly Arg Pro Gly His Val Gly Gln Met Gly
        195   200   205

Pro Val Gly Ala Pro Gly Arg Pro Gly Pro Pro Gly Pro Pro Gly Pro
    210   215   220

Lys Gly Gln Gln Gly Asn Arg Gly Leu Gly Phe Tyr Gly Val Lys Gly
225   230   235   240

Glu Lys Gly Asp Val Gly Gln Pro Gly Pro Asn Gly Ile Pro Ser Asp
            245   250   255

Thr Leu His Pro Ile Ile Ala Pro Thr Gly Val Thr Phe His Pro Asp
            260   265   270

Gln Tyr Lys Gly Glu Lys Gly Ser Glu Gly Glu Pro Gly Ile Arg Gly
        275   280   285

Ile Ser Leu Lys Gly Glu Glu Gly Ile Met Gly Phe Pro Gly Leu Arg
    290   295   300

Gly Tyr Pro Gly Leu Ser Gly Glu Lys Gly Ser Pro Gly Gln Lys Gly
305   310   315   320

Ser Arg Gly Leu Asp Gly Tyr Gln Gly Pro Asp Gly Pro Arg Gly Pro
            325   330   335

Lys Gly Glu Ala Gly Asp Pro Gly Pro Pro Gly Leu Pro Ala Tyr Ser
            340   345   350

Pro His Pro Ser Leu Ala Lys Gly Ala Arg Gly Asp Pro Gly Phe Pro
        355   360   365

Gly Ala Gln Gly Glu Pro Gly Ser Gln Gly Glu Pro Gly Asp Pro Gly
    370   375   380

Leu Pro Gly Pro Pro Gly Leu Ser Ile Gly Asp Gly Asp Gln Arg Arg
385   390   395   400

Gly Leu Pro Gly Glu Met Gly Pro Lys Gly Phe Ile Gly Asp Pro Gly
            405   410   415

Ile Pro Ala Leu Tyr Gly Gly Pro Pro Gly Pro Asp Gly Lys Arg Gly
            420   425   430

Pro Pro Gly Pro Pro Gly Leu Pro Gly Pro Pro Gly Pro Asp Gly Phe
        435   440   445

Leu Phe Gly Leu Lys Gly Ala Lys Gly Arg Ala Gly Phe Pro Gly Leu
    450   455   460

Pro Gly Ser Pro Gly Ala Arg Gly Pro Lys Gly Trp Lys Gly Asp Ala
465   470   475   480

Gly Glu Cys Arg Cys Thr Glu Gly Asp Glu Ala Ile Lys Gly Leu Pro
            485   490   495

Gly Leu Pro Gly Pro Lys Gly Phe Ala Gly Ile Asn Gly Glu Pro Gly
            500   505   510

Arg Lys Gly Asp Lys Gly Asp Pro Gly Gln His Gly Leu Pro Gly Phe
            515   520   525

Pro Gly Leu Lys Gly Val Pro Gly Asn Ile Gly Ala Pro Gly Pro Lys
    530   535   540

Gly Ala Lys Gly Asp Ser Arg Thr Ile Thr Thr Lys Gly Glu Arg Gly
545   550   555   560

Gln Pro Gly Val Pro Gly Val Pro Gly Met Lys Gly Asp Asp Gly Ser
            565   570   575

Pro Gly Arg Asp Gly Leu Asp Gly Phe Pro Gly Leu Pro Gly Pro Pro
            580   585   590

Gly Asp Gly Ile Lys Gly Pro Pro Gly Asp Pro Gly Tyr Pro Gly Ile
            595   600   605

Pro Gly Thr Lys Gly Thr Pro Gly Glu Met Gly Pro Pro Gly Leu Gly
    610   615   620

Leu Pro Gly Leu Lys Gly Gln Arg Gly Phe Pro Gly Asp Ala Gly Leu
625   630   635   640

Pro Gly Pro Pro Gly Phe Leu Gly Pro Pro Gly Pro Ala Gly Thr Pro
            645   650   655

Gly Gln Ile Asp Cys Asp Thr Asp Val Lys Arg Ala Val Gly Gly Asp
            660   665   670

Arg Gln Glu Ala Ile Gln Pro Gly Cys Ile Ala Gly Pro Lys Gly Leu
            675   680   685

Pro Gly Leu Pro Gly Pro Pro Gly Pro Thr Gly Ala Lys Gly Leu Arg
    690   695   700

Gly Ile Pro Gly Phe Ala Gly Ala Asp Gly Gly Pro Gly Pro Arg Gly
705   710   715   720

Leu Pro Gly Asp Ala Gly Arg Glu Gly Phe Pro Gly Pro Pro Gly Phe
            725   730   735

Ile Gly Pro Arg Gly Ser Lys Gly Ala Val Gly Leu Pro Gly Pro Asp
            740   745   750

Gly Ser Pro Gly Pro Ile Gly Leu Pro Gly Pro Asp Gly Pro Pro Gly
            755   760   765

Glu Arg Gly Leu Pro Gly Glu Val Leu Gly Ala Gln Pro Gly Pro Arg
    770   775   780

Gly Asp Ala Gly Val Pro Gly Gln Pro Gly Leu Lys Gly Leu Pro Gly
785   790   795   800

Asp Arg Gly Pro Pro Gly Phe Arg Gly Ser Gln Gly Met Pro Gly Met
             805   810   815

Pro Gly Leu Lys Gly Gln Pro Gly Leu Pro Gly Pro Ser Gly Gln Pro
         820   825   830

Gly Leu Tyr Gly Pro Pro Gly Leu His Gly Phe Pro Gly Ala Pro Gly
         835   840   845

Gln Glu Gly Pro Leu Gly Leu Pro Gly Ile Pro Gly Arg Glu Gly Leu
     850   855   860

Pro Gly Asp Arg Gly Asp Pro Gly Asp Thr Gly Ala Pro Gly Pro Val
865   870   875   880

Gly Met Lys Gly Leu Ser Gly Asp Arg Gly Asp Ala Gly Phe Thr Gly
             885   890   895

Glu Gln Gly His Pro Gly Ser Pro Gly Phe Lys Gly Ile Asp Gly Met
         900   905   910

Pro Gly Thr Pro Gly Leu Lys Gly Asp Arg Gly Ser Pro Gly Met Asp
         915   920   925

Gly Phe Gln Gly Met Pro Gly Leu Lys Gly Arg Pro Gly Phe Pro Gly
     930   935   940

Ser Lys Gly Glu Ala Gly Phe Phe Gly Ile Pro Gly Leu Lys Gly Leu
945   950   955   960

Ala Gly Glu Pro Gly Phe Lys Gly Ser Arg Gly Asp Pro Gly Pro Pro
             965   970   975

Gly Pro Pro Pro Val Ile Leu Pro Gly Met Lys Asp Ile Lys Gly Glu
         980   985   990

Lys Gly Asp Glu Gly Pro Met Gly Leu Lys Gly Tyr Leu Gly Ala Lys
         995   1000   1005

Gly Ile Gln Gly Met Pro Gly Ile Pro Gly Leu Ser Gly Ile Pro Gly
     1010   1015   1020

Leu Pro Gly Arg Pro Gly His Ile Lys Gly Val Lys Gly Asp Ile Gly
1025   1030   1035   1040

Val Pro Gly Ile Pro Gly Leu Pro Gly Phe Pro Gly Val Ala Gly Pro
             1045   1050   1055

Pro Gly Ile Thr Gly Phe Pro Gly Phe Ile Gly Ser Arg Gly Asp Lys
         1060   1065   1070

Gly Ala Pro Gly Arg Ala Gly Leu Tyr Gly Glu Ile Gly Ala Thr Gly
     1075   1080   1085

Asp Phe Gly Asp Ile Gly Asp Thr Ile Asn Leu Pro Gly Arg Pro Gly
   1090   1095   1100

Leu Lys Gly Glu Arg Gly Thr Thr Gly Ile Pro Gly Leu Lys Gly Phe
1105   1110   1115   1120

Phe Gly Glu Lys Gly Thr Glu Gly Asp Ile Gly Phe Pro Gly Ile Thr
       1125   1130   1135

Gly Val Thr Gly Val Gln Gly Pro Pro Gly Leu Lys Gly Gln Thr Gly
      1140   1145   1150

Phe Pro Gly Leu Thr Gly Pro Pro Gly Ser Gln Gly Glu Leu Gly Arg
     1155   1160   1165

Ile Gly Leu Pro Gly Gly Lys Gly Asp Asp Gly Trp Pro Gly Ala Pro
   1170   1175   1180

Gly Leu Pro Gly Phe Pro Gly Leu Arg Gly Ile Arg Gly Leu His Gly
1185   1190   1195   1200

Leu Pro Gly Thr Lys Gly Phe Pro Gly Ser Pro Gly Ser Asp Ile His
      1205   1210   1215

Gly Asp Pro Gly Phe Pro Gly Pro Pro Gly Glu Arg Gly Asp Pro Gly
      1220   1225   1230

Glu Ala Asn Thr Leu Pro Gly Pro Val Gly Val Pro Gly Gln Lys Gly
    1235   1240   1245

Asp Gln Gly Ala Pro Gly Glu Arg Gly Pro Pro Gly Ser Pro Gly Leu
   1250   1255   1260

Gln Gly Phe Pro Gly Ile Thr Pro Pro Ser Asn Ile Ser Gly Ala Pro
1265   1270   1275   1280

Gly Asp Lys Gly Ala Pro Gly Ile Phe Gly Leu Lys Gly Tyr Arg Gly
      1285   1290   1295

Pro Pro Gly Pro Pro Gly Ser Ala Ala Leu Pro Gly Ser Lys Gly Asp
      1300   1305   1310

Thr Gly Asn Pro Gly Ala Pro Gly Thr Pro Gly Thr Lys Gly Trp Ala
    1315   1320   1325

Gly Asp Ser Gly Pro Gln Gly Arg Pro Gly Val Phe Gly Leu Pro Gly
   1330   1335   1340

Glu Lys Gly Pro Arg Gly Glu Gln Gly Phe Met Gly Asn Thr Gly Pro
1345   1350   1355   1360

Thr Gly Ala Val Gly Asp Arg Gly Pro Lys Gly Pro Lys Gly Asp Pro
      1365   1370   1375

Gly Phe Pro Gly Ala Pro Gly Thr Val Gly Ala Pro Gly Ile Ala Gly
      1380   1385   1390

Ile Pro Gln Lys Ile Ala Ile Gln Pro Gly Thr Val Gly Pro Gln Gly
    1395   1400   1405

Arg Arg Gly Pro Pro Gly Ala Pro Gly Glu Ile Gly Pro Gln Gly Pro
    1410   1415   1420

Pro Gly Glu Pro Gly Phe Arg Gly Ala Pro Gly Lys Ala Gly Pro Gln
1425   1430   1435   1440

Gly Arg Gly Gly Val Ser Ala Val Pro Gly Phe Arg Gly Asp Glu Gly
        1445   1450   1455

Pro Ile Gly His Gln Gly Pro Ile Gly Gln Glu Gly Ala Pro Gly Arg
      1460   1465   1470

Pro Gly Ser Pro Gly Leu Pro Gly Met Pro Gly Arg Ser Val Ser Ile
     1475   1480   1485

Gly Tyr Leu Leu Val Lys His Ser Gln Thr Asp Gln Glu Pro Met Cys
    1490   1495   1500

Pro Val Gly Met Asn Lys Leu Trp Ser Gly Tyr Ser Leu Leu Tyr Phe
1505   1510   1515   1520

Glu Gly Gln Glu Lys Ala His Asn Gln Asp Leu Gly Leu Ala Gly Ser
        1525   1530   1535

Cys Leu Ala Arg Phe Ser Thr Met Pro Phe Leu Tyr Cys Asn Pro Gly
      1540   1545   1550

Asp Val Cys Tyr Tyr Ala Ser Arg Asn Asp Lys Ser Tyr Trp Leu Ser
    1555   1560   1565

Thr Thr Ala Pro Leu Pro Met Met Pro Val Ala Glu Asp Glu Ile Lys
    1570   1575   1580

Pro Tyr Ile Ser Arg Cys Ser Val Cys Glu Ala Pro Ala Ile Ala Ile
1585   1590   1595   1600

Ala Val His Ser Gln Asp Val Ser Ile Pro His Cys Pro Ala Gly Trp
        1605   1610   1615

Arg Ser Leu Trp Ile Gly Tyr Ser Phe Leu Met His Thr Ala Ala Gly
      1620   1625   1630

Asp Glu Gly Gly Gly Gln Ser Leu Val Ser Pro Gly Ser Cys Leu Glu
      1635   1640   1645

Asp Phe Arg Ala Thr Pro Phe Ile Glu Cys Asn Gly Gly Arg Gly Thr
    1650   1655   1660

Cys His Tyr Tyr Ala Asn Lys Tyr Ser Phe Trp Leu Thr Thr Ile Pro
1665   1670   1675   1680

Glu Gln Ser Phe Gln Gly Ser Pro Ser Ala Asp Thr Leu Lys Ala Gly
      1685   1690   1695

Leu Ile Arg Thr His Ile Ser Arg Cys Gln Val Cys Met Lys Asn Leu
      1700   1705   1710

<210> 10
<211> 122
<212> PRT
<213> Homo sapiens

<400> 10
Met Glu Ala Ser Ala Leu Thr Ser Ser Ala Val Thr Ser Val Ala Lys
1   5   10   15

Val Val Arg Val Ala Ser Gly Ser Ala Val Val Leu Pro Leu Ala Arg
     20   25   30

Ile Ala Thr Val Val Ile Gly Gly Val Val Ala Met Ala Ala Val Pro
     35   40   45

Met Val Leu Ser Ala Met Gly Phe Thr Ala Ala Gly Ile Ala Ser Ser
     50   55   60

Ser Ile Ala Ala Lys Met Met Ser Ala Ala Ala Ile Ala Asn Gly Gly
65   70   75   80

Gly Val Ala Ser Gly Ser Leu Val Gly Thr Leu Gln Ser Leu Gly Ala
         85   90   95

Thr Gly Leu Ser Gly Leu Thr Lys Phe Ile Leu Gly Ser Ile Gly Ser
     100   105   110

Ala Ile Ala Ala Val Ile Ala Arg Phe Tyr
     115   120

<210> 11
<211> 331
<212> PRT
<213> Homo sapiens

<400> 11
Met Ala Arg Gly Gly Arg Gly Arg Arg Leu Gly Leu Ala Leu Gly Leu
1   5   10   15

Leu Leu Ala Leu Val Leu Ala Pro Arg Val Leu Arg Ala Lys Pro Thr
     20   25   30

Val Arg Lys Glu Arg Val Val Arg Pro Asp Ser Glu Leu Gly Glu Arg
     35   40   45

Pro Pro Glu Asp Asn Gln Ser Phe Gln Tyr Asp His Glu Ala Phe Leu
     50   55   60

Gly Lys Glu Asp Ser Lys Thr Phe Asp Gln Leu Thr Pro Asp Glu Ser
65   70   75   80

Lys Glu Arg Leu Gly Lys Ile Val Asp Arg Ile Asp Asn Asp Gly Asp
         85   90   95

```
Gly Phe Val Thr Thr Glu Glu Leu Lys Thr Trp Ile Lys Arg Val Gln
            100             105                 110

Lys Arg Tyr Ile Phe Asp Asn Val Ala Lys Val Trp Lys Asp Tyr Asp
            115             120                 125

Arg Asp Lys Asp Asp Lys Ile Ser Trp Glu Glu Tyr Lys Gln Ala Thr
    130             135             140

Tyr Gly Tyr Tyr Leu Gly Asn Pro Ala Glu Phe His Asp Ser Ser Asp
145             150             155                 160

His His Thr Phe Lys Lys Met Leu Pro Arg Asp Glu Arg Arg Phe Lys
            165             170                 175

Ala Ala Asp Leu Asn Gly Asp Leu Thr Ala Thr Arg Glu Glu Phe Thr
            180             185             190

Ala Phe Leu His Pro Glu Glu Phe Glu His Met Lys Glu Ile Val Val
            195             200             205

Leu Glu Thr Leu Glu Asp Ile Asp Lys Asn Gly Asp Gly Phe Val Asp
    210             215             220

Gln Asp Glu Tyr Ile Ala Asp Met Phe Ser His Glu Glu Asn Gly Pro
225             230             235                 240

Glu Pro Asp Trp Val Leu Ser Glu Arg Glu Gln Phe Asn Glu Phe Arg
            245             250             255

Asp Leu Asn Lys Asp Gly Lys Leu Asp Lys Asp Glu Ile Arg His Trp
            260             265             270

Ile Leu Pro Gln Asp Tyr Asp His Ala Gln Ala Glu Ala Arg His Leu
            275             280             285

Val Tyr Glu Ser Asp Lys Asn Lys Asp Glu Lys Leu Thr Lys Glu Glu
    290             295             300

Ile Leu Glu Asn Trp Asn Met Phe Val Gly Ser Gln Ala Thr Asn Tyr
305             310             315                 320

Gly Glu Asp Leu Thr Lys Asn His Asp Glu Leu
            325             330
```

<210> 12
<211> 512
<212> PRT
<213> Homo sapiens

<400> 12
```
Met Ala Thr Ala Asn Gly Ala Val Glu Asn Gly Gln Pro Asp Gly Lys
1               5                   10                  15

Pro Pro Ala Leu Pro Arg Pro Ile Arg Asn Leu Glu Val Lys Phe Thr
            20              25              30
```

```
Lys Ile Phe Ile Asn Asn Glu Trp His Glu Ser Lys Ser Gly Lys Lys
        35              40              45
Phe Ala Thr Cys Asn Pro Ser Thr Arg Glu Gln Ile Cys Glu Val Glu
        50              55              60
Glu Gly Asp Lys Pro Asp Val Asp Lys Ala Val Glu Ala Ala Gln Val
65              70              75              80
Ala Phe Gln Arg Gly Ser Pro Trp Arg Arg Leu Asp Ala Leu Ser Arg
                85              90              95
Gly Arg Leu Leu His Gln Leu Ala Asp Leu Val Glu Arg Asp Arg Ala
            100             105             110
Thr Leu Ala Ala Leu Glu Thr Met Asp Thr Gly Lys Pro Phe Leu His
        115             120             125
Ala Phe Phe Ile Asp Leu Glu Gly Cys Ile Arg Thr Leu Arg Tyr Phe
        130             135             140
Ala Gly Trp Ala Asp Lys Ile Gln Gly Lys Thr Ile Pro Thr Asp Asp
145             150             155             160
Asn Val Val Cys Phe Thr Arg His Glu Pro Ile Gly Val Cys Gly Ala
                165             170             175
Ile Thr Pro Trp Asn Phe Pro Leu Leu Met Leu Val Trp Lys Leu Ala
            180             185             190
Pro Ala Leu Cys Cys Gly Asn Thr Met Val Leu Lys Pro Ala Glu Gln
            195             200             205
Thr Pro Leu Thr Ala Leu Tyr Leu Gly Ser Leu Ile Lys Glu Ala Gly
    210             215             220
Phe Pro Pro Gly Val Val Asn Ile Val Pro Gly Phe Gly Pro Thr Val
225             230             235             240
Gly Ala Ala Ile Ser Ser His Pro Gln Ile Asn Lys Ile Ala Phe Thr
            245             250             255
Gly Ser Thr Glu Val Gly Lys Leu Val Lys Glu Ala Ala Ser Arg Ser
            260             265             270
Asn Leu Lys Arg Val Thr Leu Glu Leu Gly Gly Lys Asn Pro Cys Ile
        275             280             285
Val Cys Ala Asp Ala Asp Leu Asp Leu Ala Val Glu Cys Ala His Gln
    290             295             300
Gly Val Phe Phe Asn Gln Gly Gln Cys Cys Thr Ala Ala Ser Arg Val
305             310             315             320
Phe Val Glu Glu Gln Val Tyr Ser Glu Phe Val Arg Arg Ser Val Glu
            325             330             335
```

```
Tyr Ala Lys Lys Arg Pro Val Gly Asp Pro Phe Asp Val Lys Thr Glu
            340             345             350

Gln Gly Pro Gln Ile Asp Gln Lys Gln Phe Asp Lys Ile Leu Glu Leu
            355             360             365

Ile Glu Ser Gly Lys Lys Glu Gly Ala Lys Leu Glu Cys Gly Gly Ser
    370             375             380

Ala Met Glu Asp Lys Gly Leu Phe Ile Lys Pro Thr Val Phe Ser Glu
385             390             395             400

Val Thr Asp Asn Met Arg Ile Ala Lys Glu Glu Ile Phe Gly Pro Val
                405             410             415

Gln Pro Ile Leu Lys Phe Lys Ser Ile Glu Glu Val Ile Lys Arg Ala
            420             425             430

Asn Ser Thr Asp Tyr Gly Leu Thr Ala Ala Val Phe Thr Lys Asn Leu
            435             440             445

Asp Lys Ala Leu Lys Leu Ala Ser Ala Leu Glu Ser Gly Thr Val Trp
    450             455             460

Ile Asn Cys Tyr Asn Ala Leu Tyr Ala Gln Ala Pro Phe Gly Gly Phe
465             470             475             480

Lys Met Ser Gly Asn Gly Arg Glu Leu Gly Glu Tyr Ala Leu Ala Glu
            485             490             495

Tyr Thr Glu Val Lys Thr Val Thr Ile Lys Leu Gly Asp Lys Asn Pro
            500             505             510


<210> 13
<211> 1781
<212> PRT
<213> Homo sapiens

<400> 13
Met Gly Ala Gly Ser Ser Thr Glu Gln Arg Ser Pro Glu Gln Pro Pro
 1           5               10              15

Glu Gly Ser Ser Thr Pro Ala Glu Pro Glu Pro Ser Gly Gly Gly Pro
            20              25              30

Ser Ala Glu Ala Ala Pro Asp Thr Thr Ala Asp Pro Ala Ile Ala Ala
        35              40              45

Ser Asp Pro Ala Thr Lys Leu Leu Gln Lys Asn Gly Gln Leu Ser Thr
        50              55              60

Ile Asn Gly Val Ala Glu Gln Asp Glu Leu Ser Leu Gln Glu Gly Asp
65              70              75              80

Leu Asn Gly Gln Lys Gly Ala Leu Asn Gly Gln Gly Ala Leu Asn Ser
                85              90              95
```

Gln Glu Glu Glu Glu Val Ile Val Thr Glu Val Gly Gln Arg Asp Ser
            100   105   Gly   110

Glu Asp Val Ser Glu Arg Asp Ser Asp Lys Glu Met Ala Thr Lys Ser
            115   120   125

Ala Val Val His Asp Ile Thr Asp Asp Gly Gln Glu Glu Asn Arg Asn
    130   135   140

Ile Glu Gln Ile Pro Ser Ser Glu Ser Asn Leu Glu Glu Leu Thr Gln
145   150   155   160

Pro Thr Glu Ser Gln Ala Asn Asp Ile Gly Phe Lys Lys Val Phe Lys
                165   170   175

Phe Val Gly Phe Lys Phe Thr Val Lys Lys Asp Lys Thr Glu Lys Pro
            180   185   190

Asp Thr Val Gln Leu Leu Thr Val Lys Lys Asp Glu Gly Glu Gly Ala
            195   200   205

Ala Gly Ala Gly Asp His Gln Asp Pro Ser Leu Gly Ala Gly Glu Ala
    210   215   220

Ala Ser Lys Glu Ser Glu Pro Lys Gln Ser Thr Glu Lys Pro Glu Glu
225   230   235   240

Thr Leu Lys Arg Glu Gln Ser His Ala Glu Ile Ser Pro Pro Ala Glu
                245   250   255

Ser Gly Gln Ala Val Glu Glu Cys Lys Glu Glu Gly Glu Glu Lys Gln
            260   265   270

Glu Lys Glu Pro Ser Lys Ser Ala Glu Ser Pro Thr Ser Pro Val Thr
            275   280   285

Ser Glu Thr Gly Ser Thr Phe Lys Lys Phe Phe Thr Gln Gly Trp Ala
    290   295   300

Gly Trp Arg Lys Lys Thr Ser Phe Arg Lys Pro Lys Glu Asp Glu Val
305   310   315   320

Glu Ala Ser Glu Lys Lys Lys Glu Gln Glu Pro Glu Lys Val Asp Thr
                325   330   335

Glu Glu Asp Gly Lys Ala Glu Val Ala Ser Glu Lys Leu Thr Ala Ser
            340   345   350

Glu Gln Ala His Pro Gln Glu Pro Ala Glu Ser Ala His Glu Pro Arg
            355   360   365

Leu Ser Ala Glu Tyr Glu Lys Val Glu Leu Pro Ser Glu Glu Gln Val
    370   375   380

Ser Gly Ser Gln Gly Pro Ser Glu Glu Lys Pro Ala Pro Leu Ala Thr
385   390   395   400

Glu Val Phe Asp Glu Lys Ile Glu Val His Gln Glu Glu Val Val Ala
            405   410   415

Glu Val His Val Ser Thr Val Glu Glu Arg Thr Glu Glu Gln Lys Thr
            420   425   430

Glu Val Glu Glu Thr Ala Gly Ser Val Pro Ala Glu Glu Leu Val Gly
            435   440   445

Met Asp Ala Glu Pro Gln Glu Ala Glu Pro Ala Lys Glu Leu Val Lys
    450   455   460

Leu Lys Glu Thr Cys Val Ser Gly Glu Asp Pro Thr Gln Gly Ala Asp
465   470   475   480

Leu Ser Pro Asp Glu Lys Val Leu Ser Lys Pro Pro Glu Gly Val Val
            485   490   495

Ser Glu Val Glu Met Leu Ser Ser Gln Glu Arg Met Lys Val Gln Gly
            500   505   510

Ser Pro Leu Lys Lys Leu Phe Thr Ser Thr Gly Leu Lys Lys Leu Ser
            515   520   525

Gly Lys Lys Gln Lys Gly Lys Arg Gly Gly Gly Asp Glu Glu Ser Gly
    530   535   540

Glu His Thr Gln Val Pro Ala Asp Ser Pro Asp Ser Gln Glu Glu Gln
545   550   555   560

Lys Gly Glu Ser Ser Ala Ser Ser Pro Glu Glu Pro Glu Glu Ile Thr
            565   570   575

Cys Leu Glu Lys Gly Leu Ala Glu Val Gln Gln Asp Gly Glu Ala Glu
            580   585   590

Glu Gly Ala Thr Ser Asp Gly Glu Lys Lys Arg Glu Gly Val Thr Pro
    595   600   605

Trp Ala Ser Phe Lys Lys Met Val Thr Pro Lys Lys Arg Val Arg Arg
    610   615   620

Pro Ser Glu Ser Asp Lys Glu Asp Glu Leu Asp Lys Val Lys Ser Ala
625   630   635   640

Thr Leu Ser Ser Thr Glu Ser Thr Ala Ser Glu Met Gln Glu Glu Met
            645   650   655

Lys Gly Ser Val Glu Glu Pro Lys Pro Glu Glu Pro Lys Arg Lys Val
            660   665   670

Asp Thr Ser Val Ser Trp Glu Ala Leu Ile Cys Val Gly Ser Ser Lys
    675   680   685

Lys Arg Ala Arg Arg Arg Ser Ser Ser Asp Glu Glu Gly Gly Pro Lys
    690   695   700

Ala Met Gly Gly Asp His Gln Lys Ala Asp Glu Ala Gly Lys Asp Lys
705   710   715   720

Glu Thr Gly Thr Asp Gly Ile Leu Ala Gly Ser Gln Glu His Asp Pro
              725   730   735

Gly Gln Gly Ser Ser Ser Pro Glu Gln Ala Gly Ser Pro Thr Glu Gly
            740   745   750

Glu Gly Val Ser Thr Trp Glu Ser Phe Lys Arg Leu Val Thr Pro Arg
            755   760   765

Lys Lys Ser Lys Ser Lys Leu Glu Glu Lys Ser Glu Asp Ser Ile Ala
    770   775   780

Gly Ser Gly Val Glu His Ser Thr Pro Asp Thr Glu Pro Gly Lys Glu
785   790   795   800

Glu Ser Trp Val Ser Ile Lys Lys Phe Ile Pro Gly Arg Arg Lys Lys
            805   810   815

Arg Pro Asp Gly Lys Gln Glu Gln Ala Pro Val Glu Asp Ala Gly Pro
        820   825   830

Thr Gly Ala Asn Glu Asp Asp Ser Asp Val Pro Ala Val Val Pro Leu
    835   840   845

Ser Glu Tyr Asp Ala Val Glu Arg Glu Lys Met Glu Ala Gln Gln Ala
    850   855   860

Gln Lys Gly Ala Glu Gln Pro Glu Gln Lys Ala Ala Thr Glu Val Ser
865   870   875   880

Lys Glu Leu Ser Glu Ser Gln Val His Met Met Ala Ala Ala Val Ala
            885   890   895

Asp Gly Thr Arg Ala Ala Thr Ile Ile Glu Glu Arg Ser Pro Ser Trp
        900   905   910

Ile Ser Ala Ser Val Thr Glu Pro Leu Glu Gln Val Glu Ala Glu Ala
    915   920   925

Ala Leu Leu Thr Glu Glu Val Leu Glu Arg Glu Val Ile Ala Glu Glu
    930   935   940

Glu Pro Pro Thr Val Thr Glu Pro Leu Pro Glu Asn Arg Glu Ala Arg
945   950   955   960

Gly Asp Thr Val Val Ser Glu Ala Glu Leu Thr Pro Glu Ala Val Thr
            965   970   975

Ala Ala Glu Thr Ala Gly Pro Leu Gly Ser Glu Glu Gly Thr Glu Ala
        980   985   990

Ser Ala Ala Glu Glu Thr Thr Glu Met Val Ser Ala Val Ser Gln Leu
    995   1000   1005

Thr Asp Ser Pro Asp Thr Thr Glu Glu Ala Thr Pro Val Gln Glu Val
    1010   1015   1020

Glu Gly Gly Val Pro Asp Ile Glu Glu Gln Glu Arg Arg Thr Gln Glu
1025   1030   1035   1040

Val Leu Gln Ala Val Ala Glu Lys Val Lys Glu Glu Ser Gln Leu Pro
            1045   1050   1055

Gly Thr Gly Gly Pro Glu Asp Val Leu Gln Pro Val Gln Arg Ala Glu
            1060   1065   1070

Ala Glu Arg Pro Glu Glu Gln Ala Glu Ala Ser Gly Leu Lys Lys Glu
        1075   1080   1085

Thr Asp Val Val Leu Lys Val Asp Ala Gln Glu Ala Lys Thr Glu Pro
    1090   1095   1100

Phe Thr Gln Gly Lys Val Val Gly Gln Thr Thr Pro Glu Ser Phe Glu
1105   1110   1115   1120

Lys Ala Pro Gln Val Thr Glu Ser Ile Glu Ser Ser Glu Leu Val Thr
            1125   1130   1135

Thr Cys Gln Ala Glu Thr Leu Ala Gly Val Lys Ser Gln Glu Met Val
            1140   1145   1150

Met Glu Gln Ala Ile Pro Pro Asp Ser Val Glu Thr Pro Thr Asp Ser
        1155   1160   1165

Glu Thr Asp Gly Ser Thr Pro Val Ala Asp Phe Asp Ala Pro Gly Thr
    1170   1175   1180

Thr Gln Lys Asp Glu Ile Val Glu Ile His Glu Glu Asn Glu Val Ala
1185   1190   1195   1200

Ser Gly Thr Gln Ser Gly Gly Thr Glu Ala Glu Ala Val Pro Ala Gln
            1205   1210   1215

Lys Glu Arg Pro Pro Ala Pro Ser Ser Phe Val Phe Gln Glu Glu Thr
            1220   1225   1230

Lys Glu Gln Ser Lys Met Glu Asp Thr Leu Glu His Thr Asp Lys Glu
        1235   1240   1245

Val Ser Val Glu Thr Val Ser Ile Leu Ser Lys Thr Glu Gly Thr Gln
    1250   1255   1260

Glu Ala Asp Gln Tyr Ala Asp Glu Lys Thr Lys Asp Val Pro Phe Phe
1265   1270   1275   1280

Glu Gly Leu Glu Gly Ser Ile Asp Thr Gly Ile Thr Val Ser Arg Glu
            1285   1290   1295

Lys Val Thr Glu Val Ala Leu Lys Gly Glu Gly Thr Glu Glu Ala Glu
        1300   1305   1310

Cys Lys Lys Asp Asp Ala Leu Glu Leu Gln Ser His Ala Lys Ser Pro
    1315   1320   1325

Pro Ser Pro Val Glu Arg Glu Met Val Val Gln Val Glu Arg Glu Lys
   1330   1335   1340

Thr Glu Ala Glu Pro Thr His Val Asn Glu Glu Lys Leu Glu His Glu
1345   1350   1355   1360

Thr Ala Val Thr Val Ser Glu Glu Val Ser Lys Gln Leu Leu Gln Thr
     1365   1370   1375

Val Asn Val Pro Ile Ile Asp Gly Ala Lys Glu Val Ser Ser Leu Glu
     1380   1385   1390

Gly Ser Pro Pro Pro Cys Leu Gly Gln Glu Glu Ala Val Cys Thr Lys
    1395   1400   1405

Ile Gln Val Gln Ser Ser Glu Ala Ser Phe Thr Leu Thr Ala Ala Ala
    1410   1415   1420

Glu Glu Glu Lys Val Leu Gly Glu Thr Ala Asn Ile Leu Glu Thr Gly
1425   1430   1435   1440

Glu Thr Leu Glu Pro Ala Gly Ala His Leu Val Leu Glu Glu Lys Ser
     1445   1450   1455

Ser Glu Lys Asn Glu Asp Phe Ala Ala His Pro Gly Glu Asp Ala Val
     1460   1465   1470

Pro Thr Gly Pro Asp Cys Gln Ala Lys Ser Thr Pro Val Ile Val Ser
     1475   1480   1485

Ala Thr Thr Lys Lys Gly Leu Ser Ser Asp Leu Glu Gly Glu Lys Thr
    1490   1495   1500

Thr Ser Leu Lys Trp Lys Ser Asp Glu Val Asp Glu Gln Val Ala Cys
1505   1510   1515   1520

Gln Glu Val Lys Val Ser Val Ala Ile Glu Asp Leu Glu Pro Glu Asn
      1525   1530   1535

Gly Ile Leu Glu Leu Glu Thr Lys Ser Ser Lys Leu Val Gln Asn Ile
     1540   1545   1550

Ile Gln Thr Ala Val Asp Gln Phe Val Arg Thr Glu Glu Thr Ala Thr
     1555   1560   1565

Glu Met Leu Thr Ser Glu Leu Gln Thr Gln Ala His Val Ile Lys Ala
    1570   1575   1580

Asp Ser Gln Asp Ala Gly Gln Glu Thr Glu Lys Glu Gly Glu Glu Pro
1585   1590   1595   1600

Gln Ala Ser Ala Gln Asp Glu Thr Pro Ile Thr Ser Ala Lys Glu Glu
     1605   1610   1615

Ser Glu Ser Thr Ala Val Gly Gln Ala His Ser Asp Ile Ser Lys Asp
          1620   1625   1630

Met Ser Glu Ala Ser Glu Lys Thr Met Thr Val Glu Val Glu Gly Ser
          1635   1640   1645

Thr Val Asn Asp Gln Gln Leu Glu Glu Val Val Leu Pro Ser Glu Glu
     1650   1655   1660

Glu Gly Gly Gly Ala Gly Thr Lys Ser Val Pro Glu Asp Asp Gly His
1665   1670   1675   1680

Ala Leu Leu Ala Glu Arg Ile Glu Lys Ser Leu Val Glu Pro Lys Glu
               1685   1690   1695

Asp Glu Lys Gly Asp Asp Val Asp Asp Pro Glu Asn Gln Asn Ser Ala
               1700   1705   1710

Leu Ala Asp Thr Asp Ala Ser Gly Gly Leu Thr Lys Glu Ser Pro Asp
          1715   1720   1725

Thr Asn Gly Pro Lys Gln Lys Glu Lys Glu Asp Ala Gln Glu Val Glu
     1730   1735   1740

Leu Gln Glu Gly Lys Val His Ser Glu Ser Asp Lys Ala Ile Thr Pro
1745   1750   1755   1760

Gln Ala Gln Glu Glu Leu Gln Lys Gln Glu Arg Glu Ser Ala Lys Ser
               1765   1770   1775

Glu Leu Thr Glu Ser
          1780

<210> 14
<211> 1247
<212> PRT
<213> Homo sapiens

<400> 14
Met Leu Ala Ser Ser Ser Arg Ile Arg Ala Ala Trp Thr Arg Ala Leu
  1   5   10   15

Leu Leu Pro Leu Leu Leu Ala Gly Pro Val Gly Cys Leu Ser Arg Gln
          20   25   30

Glu Leu Phe Pro Phe Gly Pro Gly Gln Gly Asp Leu Glu Leu Glu Asp
          35   40   45

Gly Asp Asp Phe Val Ser Pro Ala Leu Glu Leu Ser Gly Ala Leu Arg
     50   55   60

Phe Tyr Asp Arg Ser Asp Ile Asp Ala Val Tyr Val Thr Thr Asn Gly
 65   70   75   80

Ile Ile Ala Thr Ser Glu Pro Pro Ala Lys Glu Ser His Pro Gly Leu
               85   90   95

Phe Pro Pro Thr Phe Gly Ala Val Ala Pro Phe Leu Ala Asp Leu Asp
            100   105   110

Thr Thr Asp Gly Leu Gly Lys Val Tyr Tyr Arg Glu Asp Leu Ser Pro
            115   120   125

Ser Ile Thr Gln Arg Ala Ala Glu Cys Val His Arg Gly Phe Pro Glu
    130   135   140

Ile Ser Phe Gln Pro Ser Ser Ala Val Val Val Thr Trp Glu Ser Val
145   150   155   160

Ala Pro Tyr Gln Gly Pro Ser Arg Asp Pro Asp Gln Lys Gly Lys Arg
                165   170   175

Asn Thr Phe Gln Ala Val Leu Ala Ser Ser Asp Ser Ser Ser Tyr Ala
            180   185   190

Ile Phe Leu Tyr Pro Glu Asp Gly Leu Gln Phe His Thr Thr Phe Ser
    195   200   205

Lys Lys Glu Asn Asn Gln Val Pro Ala Val Val Ala Phe Ser Gln Gly
    210   215   220

Ser Val Gly Phe Leu Trp Lys Ser Asn Gly Ala Tyr Asn Ile Phe Ala
225   230   235   240

Asn Asp Arg Glu Ser Ile Glu Asn Leu Ala Lys Ser Ser Asn Ser Gly
            245   250   255

Gln Gln Gly Val Trp Val Phe Glu Ile Gly Ser Pro Ala Thr Thr Asn
            260   265   270

Gly Val Val Pro Ala Asp Val Ile Leu Gly Thr Glu Asp Gly Ala Glu
        275   280   285

Tyr Asp Asp Glu Asp Glu Asp Tyr Asp Leu Ala Thr Thr Arg Leu Gly
    290   295   300

Leu Glu Asp Val Gly Thr Thr Pro Phe Ser Tyr Lys Ala Leu Arg Arg
305   310   315   320

Gly Gly Ala Asp Thr Tyr Ser Val Pro Ser Val Leu Ser Pro Arg Arg
            325   330   335

Ala Ala Thr Glu Arg Pro Leu Gly Pro Pro Thr Glu Arg Thr Arg Ser
            340   345   350

Phe Gln Leu Ala Val Glu Thr Phe His Gln Gln His Pro Gln Val Ile
    355   360   365

Asp Val Asp Glu Val Glu Glu Thr Gly Val Val Phe Ser Tyr Asn Thr
    370   375   380

Asp Ser Arg Gln Thr Cys Ala Asn Asn Arg His Gln Cys Ser Val His
385   390   395   400

```
Ala Glu Cys Arg Asp Tyr Ala Thr Gly Phe Cys Cys Ser Cys Val Ala
            405             410                 415

Gly Tyr Thr Gly Asn Gly Arg Gln Cys Val Ala Glu Gly Ser Pro Gln
            420             425                 430

Arg Val Asn Gly Lys Val Lys Gly Arg Ile Phe Val Gly Ser Ser Gln
            435             440                 445

Val Pro Ile Val Phe Glu Asn Thr Asp Leu His Ser Tyr Val Val Met
            450             455                 460

Asn His Gly Arg Ser Tyr Thr Ala Ile Ser Thr Ile Pro Glu Thr Val
465                 470             475                 480

Gly Tyr Ser Leu Leu Pro Leu Ala Pro Val Gly Gly Ile Ile Gly Trp
                485             490                 495

Met Phe Ala Val Glu Gln Asp Gly Phe Lys Asn Gly Phe Ser Ile Thr
            500             505                 510

Gly Gly Glu Phe Thr Arg Gln Ala Glu Val Thr Phe Val Gly His Pro
            515             520                 525

Gly Asn Leu Val Ile Lys Gln Arg Phe Ser Gly Ile Asp Glu His Gly
    530             535             540

His Leu Thr Ile Asp Thr Glu Leu Glu Gly Arg Val Pro Gln Ile Pro
545             550             555                 560

Phe Gly Ser Ser Val His Ile Glu Pro Tyr Thr Glu Leu Tyr His Tyr
            565             570                 575

Ser Thr Ser Val Ile Thr Ser Ser Ser Thr Arg Glu Tyr Thr Val Thr
            580             585                 590

Glu Pro Glu Arg Asp Gly Ala Ser Pro Ser Arg Ile Tyr Thr Tyr Gln
    595             600             605

Trp Arg Gln Thr Ile Thr Phe Gln Glu Cys Val His Asp Asp Ser Arg
    610             615             620

Pro Ala Leu Pro Ser Thr Gln Gln Leu Ser Val Asp Ser Val Phe Val
625             630             635             640

Leu Tyr Asn Gln Glu Glu Lys Ile Leu Arg Tyr Ala Phe Ser Asn Ser
            645             650             655

Ile Gly Pro Val Arg Glu Gly Ser Pro Asp Ala Leu Gln Asn Pro Cys
            660             665             670

Tyr Ile Gly Thr His Gly Cys Asp Thr Asn Ala Ala Cys Arg Pro Gly
            675             680             685

Pro Arg Thr Gln Phe Thr Cys Glu Cys Ser Ile Gly Phe Arg Gly Asp
    690             695             700
```

Gly Arg Thr Cys Tyr Asp Ile Asp Glu Cys Ser Glu Gln Pro Ser Val
705   710   715   720

Cys Gly Ser His Thr Ile Cys Asn Asn His Pro Gly Thr Phe Arg Cys
725   730   735

Glu Cys Val Glu Gly Tyr Gln Phe Ser Asp Glu Gly Thr Cys Val Ala
740   745   750

Val Val Asp Gln Arg Pro Ile Asn Tyr Cys Glu Thr Gly Leu His Asn
755   760   765

Cys Asp Ile Pro Gln Arg Ala Gln Cys Ile Tyr Thr Gly Gly Ser Ser
770   775   780

Tyr Thr Cys Ser Cys Leu Pro Gly Phe Ser Gly Asp Gly Gln Ala Cys
785   790   795   800

Gln Asp Val Asp Glu Cys Gln Pro Ser Arg Cys His Pro Asp Ala Phe
805   810   815

Cys Tyr Asn Thr Pro Gly Ser Phe Thr Cys Gln Cys Lys Pro Gly Tyr
820   825   830

Gln Gly Asp Gly Phe Arg Cys Val Pro Gly Glu Val Glu Lys Thr Arg
835   840   845

Cys Gln His Glu Arg Glu His Ile Leu Gly Ala Ala Gly Ala Thr Asp
850   855   860

Pro Gln Arg Pro Ile Pro Pro Gly Leu Phe Val Pro Glu Cys Asp Ala
865   870   875   880

His Gly His Tyr Ala Pro Thr Gln Cys His Gly Ser Thr Gly Tyr Cys
885   890   895

Trp Cys Val Asp Arg Asp Gly Arg Glu Val Glu Gly Thr Arg Thr Arg
900   905   910

Pro Gly Met Thr Pro Pro Cys Leu Ser Thr Val Ala Pro Pro Ile His
915   920   925

Gln Gly Pro Ala Val Pro Thr Ala Val Ile Pro Leu Pro Pro Gly Thr
930   935   940

His Leu Leu Phe Ala Gln Thr Gly Lys Ile Glu Arg Leu Pro Leu Glu
945   950   955   960

Gly Asn Thr Met Arg Lys Thr Glu Ala Lys Ala Phe Leu His Val Pro
965   970   975

Ala Lys Val Ile Ile Gly Leu Ala Phe Asp Cys Val Asp Lys Met Val
980   985   990

Tyr Trp Thr Asp Ile Thr Glu Pro Ser Ile Gly Arg Ala Ser Leu His
995   1000   1005

Gly Gly Glu Pro Thr Thr Ile Ile Arg Gln Asp Leu Gly Ser Pro Glu
    1010   1015   1020

Gly Ile Ala Val Asp His Leu Gly Arg Asn Ile Phe Trp Thr Asp Ser
1025   1030   1035   1040

Asn Leu Asp Arg Ile Glu Val Ala Lys Leu Asp Gly Thr Gln Arg Arg
                1045   1050   1055

Val Leu Phe Glu Thr Asp Leu Val Asn Pro Arg Gly Ile Val Thr Asp
            1060   1065   1070

Ser Val Arg Gly Asn Leu Tyr Trp Thr Asp Trp Asn Arg Asp Asn Pro
        1075   1080   1085

Lys Ile Glu Thr Ser Tyr Met Asp Gly Thr Asn Arg Arg Ile Leu Val
    1090   1095   1100

Gln Asp Asp Leu Gly Leu Pro Asn Gly Leu His Phe Asp Ala Phe Ser
1105   1110   1115   1120

Ser Gln Leu Cys Trp Val Asp Ala Gly Thr Asn Arg Ala Glu Cys Leu
            1125   1130   1135

Asn Pro Ser Gln Pro Ser Arg Arg Lys Ala Leu Glu Gly Leu Gln Tyr
        1140   1145   1150

Pro Phe Ala Val Thr Ser Tyr Gly Lys Asn Leu Tyr Phe Thr Asp Trp
        1155   1160   1165

Lys Met Asn Ser Val Val Ala Leu Asp Leu Ala Ile Ser Lys Glu Thr
    1170   1175   1180

Asp Ala Phe Gln Pro His Lys Gln Thr Arg Leu Tyr Gly Ile Thr Thr
1185   1190   1195   1200

Ala Leu Ser Gln Cys Pro Gln Gly His Asn Tyr Cys Ser Val Asn Asn
            1205   1210   1215

Gly Gly Cys Thr His Leu Cys Leu Ala Thr Pro Gly Ser Arg Thr Cys
        1220   1225   1230

Arg Cys Pro Asp Asn Thr Leu Gly Val Asp Cys Ile Glu Arg Lys
    1235   1240   1245

<210> 15
<211> 997
<212> PRT
<213> Homo sapiens

<400> 15
Met Pro Ser Glu Lys Lys Ile Ser Ser Ala Asn Asp Cys Ile Ser Phe
  1   5   10   15

Met Gln Ala Gly Cys Glu Leu Lys Lys Val Arg Pro Asn Ser Arg Ile
            20   25   30

```
Tyr Asn Arg Phe Phe Thr Leu Asp Thr Asp Leu Gln Ala Leu Arg Trp
        35              40              45

Glu Pro Ser Lys Lys Asp Leu Glu Lys Ala Lys Leu Asp Ile Ser Ala
        50              55              60

Ile Lys Glu Ile Arg Leu Gly Lys Asn Thr Glu Thr Phe Thr Asn Asn
65              70              75              80

Gly Leu Ala Asp Gln Ile Cys Glu Asp Cys Ala Phe Ser Ile Leu His
        85              90              95

Gly Glu Asn Tyr Glu Ser Leu Asp Leu Val Ala Asn Ser Ala Asp Val
        100             105             110

Ala Asn Ile Trp Val Ser Gly Leu Arg Tyr Leu Val Ser Arg Ser Lys
        115             120             125

Gln Pro Leu Asp Phe Met Glu Gly Asn Gln Asn Thr Pro Arg Phe Met
        130             135             140

Trp Leu Lys Thr Val Phe Glu Ala Ala Asp Val Asp Gly Asn Gly Ile
145             150             155             160

Met Leu Glu Asp Thr Ser Val Glu Leu Ile Lys Gln Leu Asn Pro Thr
        165             170             175

Leu Lys Glu Ala Lys Ile Arg Leu Lys Phe Lys Glu Ile Gln Lys Ser
        180             185             190

Lys Glu Lys Leu Thr Thr Arg Val Thr Glu Glu Glu Phe Cys Glu Ala
        195             200             205

Phe Cys Glu Leu Cys Thr Arg Pro Glu Val Tyr Phe Leu Leu Val Gln
210             215             220

Ile Ser Lys Asn Lys Glu Tyr Leu Asp Ala Asn Asp Leu Met Leu Phe
225             230             235             240

Leu Glu Ala Glu Gln Gly Val Thr His Ile Thr Glu Asp Ile Cys Leu
        245             250             255

Asp Ile Ile Arg Arg Tyr Glu Leu Ser Glu Glu Gly Arg Gln Lys Gly
        260             265             270

Phe Leu Ala Ile Asp Gly Phe Thr Gln Tyr Leu Leu Ser Ser Glu Cys
        275             280             285

Asp Ile Phe Asp Pro Glu Gln Lys Lys Val Ala Gln Asp Met Thr Gln
        290             295             300

Pro Leu Ser His Tyr Tyr Ile Asn Ala Ser His Asn Thr Tyr Leu Ile
305             310             315             320

Glu Asp Gln Phe Arg Gly Pro Ala Asp Ile Asn Gly Tyr Ile Arg Ala
        325             330             335
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Leu Lys Met Gly Cys Arg Ser Val Glu Leu Asp Val Ser Asp Gly Ser
            340   345   350

Asp Asn Glu Pro Ile Leu Cys Asn Arg Asn Asn Met Thr Thr His Val
            355   360   365

Ser Phe Arg Ser Val Ile Glu Val Ile Asn Lys Phe Ala Phe Val Ala
        370   375   380

Ser Glu Tyr Pro Leu Ile Leu Cys Leu Gly Asn His Cys Ser Leu Pro
385   390   395   400

Gln Gln Lys Val Met Ala Gln Gln Met Lys Lys Val Phe Gly Asn Lys
            405   410   415

Leu Tyr Thr Glu Ala Pro Leu Pro Ser Glu Ser Tyr Leu Pro Ser Pro
            420   425   430

Glu Lys Leu Lys Arg Met Ile Ile Val Lys Gly Lys Lys Leu Pro Ser
            435   440   445

Asp Pro Asp Val Leu Glu Gly Glu Val Thr Asp Glu Asp Glu Glu Ala
        450   455   460

Gln Met Ser Arg Arg Met Ser Val Asp Tyr Asn Gly Glu Gln Lys Gln
465   470   475   480

Ile Arg Leu Cys Arg Glu Leu Ser Asp Leu Val Ser Ile Cys Lys Ser
            485   490   495

Val Gln Tyr Arg Asp Phe Glu Leu Ser Met Lys Ser Gln Asn Tyr Trp
            500   505   510

Glu Met Cys Ser Phe Ser Glu Thr Glu Ala Ser Arg Ile Ala Asn Glu
            515   520   525

Tyr Pro Glu Asp Phe Val Asn Tyr Asn Lys Lys Phe Leu Ser Arg Ile
        530   535   540

Tyr Pro Ser Ala Met Arg Ile Asp Ser Ser Asn Leu Asn Pro Gln Asp
545   550   555   560

Phe Trp Asn Cys Gly Cys Gln Ile Val Ala Met Asn Phe Gln Thr Pro
            565   570   575

Gly Pro Met Met Asp Leu His Thr Gly Trp Phe Leu Gln Asn Gly Gly
            580   585   590

Cys Gly Tyr Val Leu Arg Pro Ser Ile Met Arg Asp Glu Val Ser Tyr
        595   600   605

Phe Ser Ala Asn Thr Lys Gly Ile Leu Pro Gly Val Ser Pro Leu Ala
        610   615   620

Leu His Ile Lys Ile Ile Ser Gly Gln Asn Phe Pro Lys Pro Lys Gly
625   630   635   640

Ala Cys Ala Lys Gly Asp Val Ile Asp Pro Tyr Val Cys Ile Glu Ile
            645   650   655

His Gly Ile Pro Ala Asp Cys Ser Glu Gln Arg Thr Lys Thr Val Gln
            660   665   670

Gln Asn Ser Asp Asn Pro Ile Phe Asp Glu Thr Phe Glu Phe Gln Val
            675   680   685

Asn Leu Pro Glu Leu Ala Met Ile Arg Phe Val Val Leu Asp Asp Asp
    690   695   700

Tyr Ile Gly Asp Glu Phe Ile Gly Gln Tyr Thr Ile Pro Phe Glu Cys
705   710   715   720

Leu Gln Pro Gly Tyr Arg His Val Pro Leu Arg Ser Phe Val Gly Asp
            725   730   735

Ile Met Glu His Val Thr Leu Phe Val His Ile Ala Ile Thr Asn Arg
            740   745   750

Ser Gly Gly Gly Lys Ala Gln Lys Arg Ser Leu Ser Val Arg Met Gly
            755   760   765

Lys Lys Val Arg Glu Tyr Thr Met Leu Arg Asn Ile Gly Leu Lys Thr
    770   775   780

Ile Asp Asp Ile Phe Lys Ile Ala Val His Pro Leu Arg Glu Ala Ile
785   790   795   800

Asp Met Arg Glu Asn Met Gln Asn Ala Ile Val Ser Ile Lys Glu Leu
            805   810   815

Cys Gly Leu Pro Pro Ile Ala Ser Leu Lys Gln Cys Leu Leu Thr Leu
            820   825   830

Ser Ser Arg Leu Ile Thr Ser Asp Asn Thr Pro Ser Val Ser Leu Val
            835   840   845

Met Lys Asp Ser Phe Pro Tyr Leu Glu Pro Leu Gly Ala Ile Pro Asp
    850   855   860

Val Gln Lys Lys Met Leu Thr Ala Tyr Asp Leu Met Ile Gln Glu Ser
865   870   875   880

Arg Phe Leu Ile Glu Met Ala Asp Thr Val Gln Glu Lys Ile Val Gln
            885   890   895

Cys Gln Lys Ala Gly Met Glu Phe His Glu Glu Leu His Asn Leu Gly
            900   905   910

Ala Lys Glu Gly Leu Lys Gly Arg Lys Leu Asn Lys Ala Thr Glu Ser
            915   920   925

Phe Ala Trp Asn Ile Thr Val Leu Lys Gly Gln Gly Asp Leu Leu Lys
    930   935   940

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Asn Ala Lys Asn Glu Ala Ile Glu Asn Met Lys Gln Ile Gln Leu Ala
945             950             955                     960

Cys Leu Ser Cys Gly Leu Ser Lys Ala Pro Ser Ser Ser Ala Glu Ala
                965             970                 975

Lys Ser Lys Arg Ser Leu Glu Ala Ile Glu Glu Lys Glu Ser Ser Glu
            980             985             990

Glu Asn Gly Lys Leu
        995
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